

Spiral Retaining Rings
Wave Springs
Constant Section Rings



Zhejiang Lisheng Spring Co., Ltd
Focus on the design and development of wave spring, spiral retaining rings.

Lisprings[®]
W U E R P A I



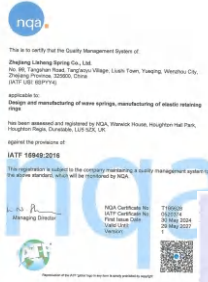
Company profile

- our company has an inventory of thousands of products in regular size.
- Our company has introduced the wave spring and spiral retaining ring machine from Japan, and wave spring design software system from Germany, so we can produce the non-standard products you need quickly without making extra molds.
- The company has successfully passed ISO14001, IATF16949, ISO13485 and AS9100 quality management system certification.

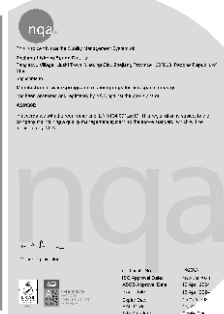
Certification

- IATF 16949:2016
- ISO 13485:2016
- AS 9100:2013
- ISO 14001:2015
- ISO 45001:2018
- ISO 50001:2018
- D-U-N-S® No. 52-556-1640
- ISO/IEC 17025:2017 (CNAS L26012)

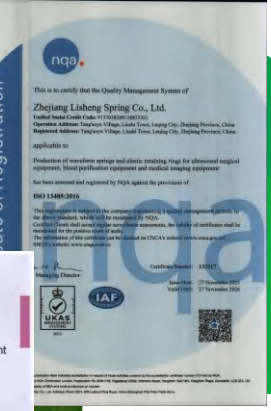
Certificate of Registration



Certificate of Registration



Certificate of Registration



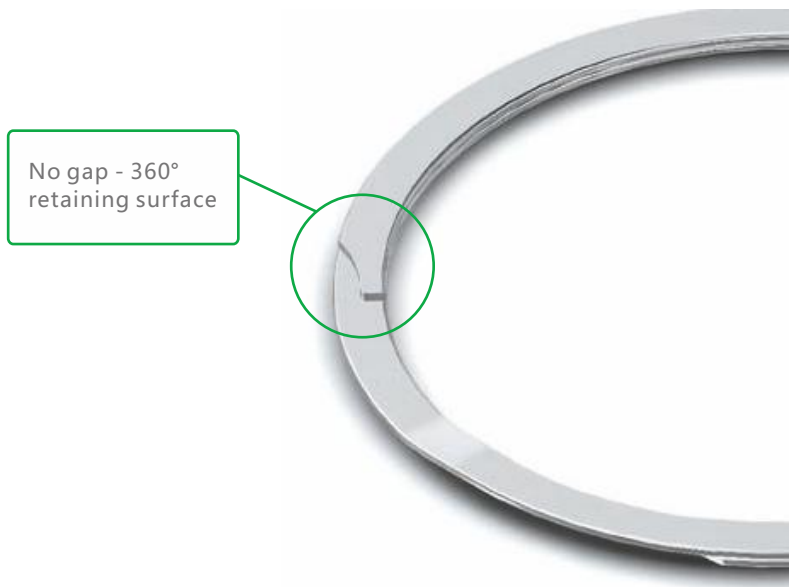
Spiral Retaining Rings

Advantages

Spiral Retaining rings are manufactured by coiling the ring from flat wire. This unique process produces a retaining ring that has no protruding ears or burrs to interfere with your assembly. Because coiling produces a retaining ring with no scrap, the Ring can be economically produced in carbon steel, stainless steel, copper, and many other alloys.



- No gap - 360° retaining surface
- No protruding ears to interfere with mating components (uniform cross-section)
- Economically produced in stainless steel because the coiling process produces no scrap
- Easy installation and removal



Spiral retaining rings

Material

According to their application, rings can be divided into housing and shaft types. High carbon tempered spring steel and stainless steel 302 are standard material for spiral retaining rings.

Light Duty Rings



Light Duty Rings
for housing



Light Duty Rings
for shaft

Medium Duty Rings



Medium Duty Rings
for housing



Medium Duty Rings
for shaft

Heavy Duty Rings



Heavy Duty Rings
for housing



Heavy Duty Series
for shaft

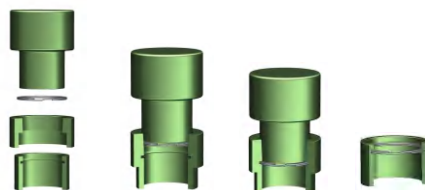
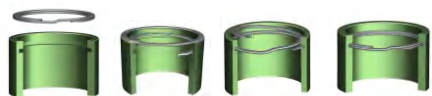
Spiral retaining rings Assembly Methods

Housing

Single Turn



2-Turn

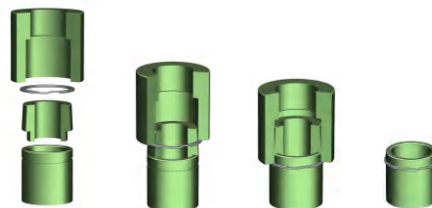


Shaft

Single Turn



2-Turn



Spiral retaining rings

Removal

- Insert a screwdriver or dental pick behind the removal notch.
- Use the tool to pry out the first end of the ring.
- Manually spiral the ring around until it is free from the groove



Interchange Listing

Lispring retaining rings are interchangeable with both imperial and metric retaining ring grooves. Cross reference a standard stamped or snap ring to find the appropriate Lispring retaining ring to fit your application.

LISPRING	SMALLEY®	SPIROLOX®	MILITARY MIL-DTL-27426	AEROSPACE AS3219	AEROSPACE MA4035 (METRIC)	EUROPEAN SPECIFICATION DIN	EATON	OTHER RINGS
VK	VH	UR	-	-	-	-	-	-
WK	WH	RR	/3	AS4299 AS3217	-	-	-	-
WKW	WHW	-	-	-	-	-	-	-
WKT	WHT	RRT	-	-	-	-	NAN	UHB
WKM	WHM	RRN	/4	AS4299 AS3215	-	-	IN	HO HOI
KLR	FHE	-	-	-	-	-	-	-
VKM	VHM	-	-	-	-	-	-	-
EK	EH	-	-	-	MA4017	-	-	-
DNK	DNH	-	-	-	-	DIN472	-	DHO
DKL	FH	-	-	-	-	DIN472	-	DHO
UHB	XAH	-	-	-	-	-	NAN	UHB
HN	XDH	-	-	-	-	-	ND	HN
VZ	VS	US	-	-	-	-	-	-
WZ	WS	RS	/1	AS4299 AS3218	-	-	-	-
WZW	WSW	-	-	-	-	-	-	-
WZT	WST	RST	-	-	-	-	XAN	USC
WZM	WSM	RSN	/2	AS4299 AS3216	-	-	EN	SH SHI
CLR	FSE	-	-	-	-	-	-	-
VZM	VSM	-	-	-	-	-	-	-
EZ	ES	-	-	-	MA4016	-	-	-
DNZ	DNS	-	-	-	-	DIN471	-	DSH
DCL	FS	-	-	-	-	DIN471	-	DSH
USC	XAS	-	-	-	-	-	XAN	USC
SNL	XDS	-	-	-	-	-	XD	SNL

SPIRAL RETAINING RING

SPECIALTY

The no-ear spiral retaining ring is manufactured from precision-flattened steel wire with a uniform cross-section. Unlike traditional stamped retaining rings, it features a smooth profile without protruding ears or burrs, preventing interference with surrounding components.

Produced through an advanced wire-winding process, this design eliminates material waste associated with stamping methods while providing excellent dimensional consistency, reliable retention performance, and smooth installation.



CATEGORY

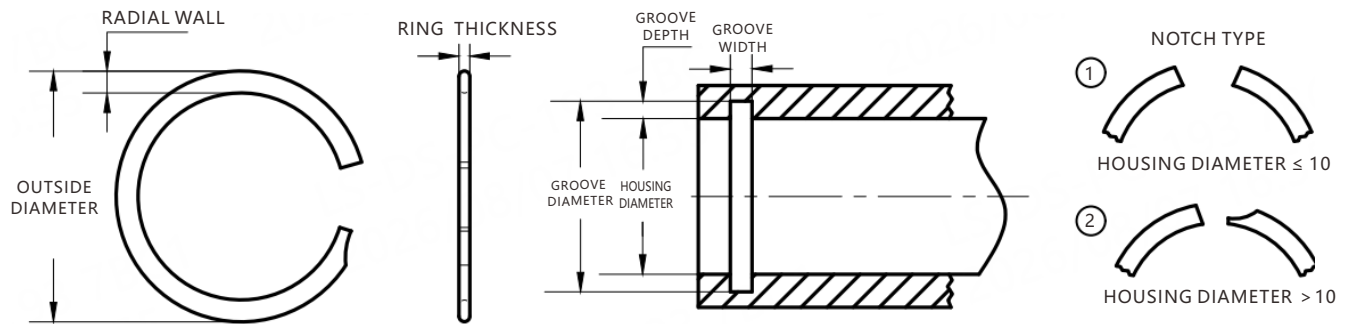
	Single Turn Internal Spiral Retaining Ring VK/VKM		Single Turn External Spiral Retaining Ring VZ/VZM		Shake Handshandle Retaining Ring Custom Design Available
	2-Turn Internal Spiral Retaining Ring EK/WK/DNK WKT/WKM		2-Turn External Spiral Retaining Ring EZ/WZ/DNZ WZT/WZM		Self-Locking Spiral Retaining Ring Custom Design Available
	Hoopster Retaining Ring HK/HKM/HZ/HZM		Wave Spiral Retaining Ring WKW/WZW		Balanced Spiral Retaining Ring Custom Design Available

APPLICATION



Mainly used in aerospace, automobile, petroleum, medical equipment, wind energy, construction machinery, consumer electronics and other industrial products fields, such as mechanical seal, electric connector, bearing preload.

Single Turn Spiral Retaining Rings for Bore



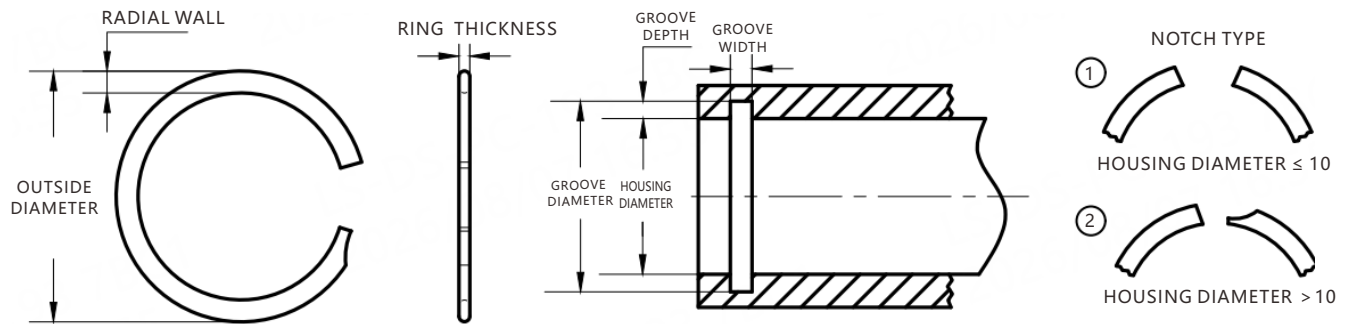
Lispring Part Number ¹			Housing Diameter (mm)	Ring						Groove				Thrust Capacity	
Carbon Steel	304 SS	316 SS		Outside Diameter (mm)		Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)
	Add Suffix	Add Suffix													
VKM-6 ^{2,3}	-304	-316	6.00	6.35	+0.25	0.51	+0.10	0.30	+0.04	6.30	+0.05	0.38	+0.05	439	1,988
VK-25 ^{2,3}	-304	-316	6.35	6.71	+0.25	0.51	+0.10	0.30	+0.04	6.65	+0.05	0.38	+0.05	471	2,138
VKM-7 ^{2,3}	-304	-316	7.00	7.38	+0.25	0.51	+0.10	0.30	+0.04	7.32	+0.05	0.38	+0.05	546	2,320
VK-31 ^{2,3}	-304	-316	7.92	8.36	+0.25	0.64	+0.10	0.38	+0.04	8.28	+0.05	0.46	+0.05	685	3,334
VKM-8 ^{2,3}	-304	-316	8.00	8.44	+0.25	0.64	+0.10	0.38	+0.04	8.36	+0.05	0.46	+0.05	702	3,183
VKM-9 ^{2,3}	-304	-316	9.00	9.54	+0.25	0.76	+0.10	0.38	+0.04	9.46	+0.05	0.46	+0.05	1,003	3,580
VK-37 ^{2,3}	-304	-316	9.53	10.11	+0.25	0.76	+0.10	0.38	+0.04	10.03	+0.05	0.46	+0.05	1,178	4,005
VKM-10 ^{2,3}	-304	-316	10.00	10.58	+0.30	0.76	+0.10	0.38	+0.04	10.50	+0.05	0.46	+0.05	1,238	3,978
VKM-11 ³	-304	-316	11.00	11.68	+0.30	0.89	+0.10	0.38	+0.04	11.60	+0.05	0.46	+0.05	1,634	4,388
VK-43 ³	-304	-316	11.10	11.84	+0.30	0.76	+0.10	0.38	+0.04	11.76	+0.05	0.46	+0.05	1,787	4,668
VKM-12 ³	-304	-316	12.00	12.74	+0.30	0.89	+0.10	0.38	+0.04	12.66	+0.05	0.46	+0.05	1,930	4,774
VK-50	-304	-316	12.70	13.49	+0.35	1.14	+0.10	0.46	+0.04	13.41	+0.05	0.56	+0.05	2,223	5,779
VKM-13	-304	-316	13.00	13.80	+0.33	1.14	+0.10	0.46	+0.04	13.72	+0.05	0.56	+0.05	2,281	6,261
VKM-14	-304	-316	14.00	14.80	+0.33	1.14	+0.10	0.46	+0.04	14.72	+0.05	0.56	+0.05	2,456	6,742
VK-56	-304	-316	14.27	15.06	+0.35	1.14	+0.10	0.46	+0.04	14.99	+0.05	0.56	+0.05	2,489	6,490
VKM-15	-304	-316	15.00	15.80	+0.33	1.14	+0.10	0.46	+0.04	15.72	+0.05	0.56	+0.05	2,632	7,224
VK-62	-304	-316	15.88	16.66	+0.35	1.14	+0.10	0.46	+0.04	16.59	+0.05	0.56	+0.05	2,756	7,246
VKM-16	-304	-316	16.00	16.80	+0.33	1.14	+0.10	0.46	+0.04	16.72	+0.05	0.56	+0.05	2,807	7,705
VKM-17	-304	-316	17.00	17.82	+0.33	1.14	+0.10	0.46	+0.04	17.72	+0.05	0.56	+0.05	2,983	8,187
VK-68	-304	-316	17.45	18.26	+0.35	1.14	+0.10	0.46	+0.04	18.16	+0.05	0.56	+0.05	3,023	7,957
VKM-18	-304	-316	18.00	18.82	+0.33	1.14	+0.10	0.46	+0.04	18.72	+0.05	0.56	+0.05	3,158	8,669
VKM-19	-304	-316	19.00	19.86	+0.33	1.14	+0.10	0.46	+0.04	19.76	+0.05	0.56	+0.05	3,519	9,150
VK-75	-304	-316	19.05	19.89	+0.35	1.14	+0.10	0.46	+0.04	19.79	+0.05	0.56	+0.05	3,556	8,668
VKM-20	-304	-316	20.00	21.26	+0.33	1.65	+0.10	0.53	+0.04	21.06	+0.08	0.66	+0.05	5,166	11,097
VK-81	-304	-316	20.62	21.89	+0.35	1.65	+0.10	0.53	+0.04	21.69	+0.08	0.66	+0.05	5,379	10,935
VKM-21	-304	-316	21.00	22.27	+0.33	1.65	+0.10	0.53	+0.04	22.06	+0.08	0.66	+0.05	5,424	11,652
VKM-22	-304	-316	22.00	23.28	+0.33	1.65	+0.10	0.53	+0.04	23.06	+0.08	0.66	+0.05	5,683	12,207
VK-87	-304	-316	22.23	23.52	+0.35	1.65	+0.10	0.53	+0.04	23.29	+0.08	0.66	+0.05	5,779	11,824
VK-93	-304	-316	23.80	25.12	+0.35	1.65	+0.10	0.53	+0.04	24.87	+0.08	0.66	+0.05	6,179	12,625
VKM-24	-304	-316	24.00	25.29	+0.33	1.65	+0.10	0.53	+0.04	25.06	+0.08	0.66	+0.05	6,199	13,317
VKM-25	-304	-316	25.00	26.30	+0.33	1.65	+0.10	0.53	+0.04	26.06	+0.08	0.66	+0.05	6,458	13,872
VK-100	-304	-316	25.40	26.72	+0.35	1.65	+0.10	0.53	+0.04	26.47	+0.08	0.66	+0.05	6,579	13,514
VKM-26	-304	-316	26.00	27.31	+0.33	1.65	+0.10	0.53	+0.04	27.06	+0.10	0.66	+0.05	6,716	14,427
VK-106	-304	-316	26.97	28.37	+0.40	2.24	+0.10	0.64	+0.04	28.09	+0.10	0.79	+0.05	7,335	15,558
VKM-28	-304	-316	28.00	29.40	+0.38	2.24	+0.10	0.64	+0.04	29.12	+0.10	0.79	+0.05	7,642	16,303
VK-112	-304	-316	28.58	29.97	+0.40	2.24	+0.10	0.64	+0.04	29.69	+0.10	0.79	+0.05	7,779	16,492
VKM-29	-304	-316	29.00	30.41	+0.38	2.24	+0.10	0.64	+0.04	30.12	+0.10	0.79	+0.05	7,915	16,885
VKM-30	-304	-316	30.00	31.42	+0.38	2.24	+0.10	0.64	+0.04	31.12	+0.10	0.79	+0.05	8,188	17,467
VK-118	-304	-316	30.15	31.55	+0.40	2.24	+0.10	0.64	+0.04	31.27	+0.10	0.79	+0.05	8,224	17,425
VKM-31	-304	-316	31.00	32.43	+0.38	2.24	+0.10	0.64	+0.04	32.12	+0.10	0.79	+0.05	8,461	18,049
VK-125	-304	-316	31.75	33.20	+0.40	2.24	+0.10	0.64	+0.04	32.87	+0.10	0.79	+0.05	8,624	18,315
VKM-32	-304	-316	32.00	33.44	+0.38	2.24	+0.10	0.64	+0.04	33.12	+0.10	0.79	+0.05	8,734	18,632
VK-131	-304	-316	33.32	34.77	+0.40	2.24	+0.10	0.64	+0.04	34.44	+0.10	0.79	+0.05	9,068	19,248
VKM-34	-304	-316	34.00	35.45	+0.38	2.24	+0.10	0.64	+0.04	35.12	+0.10	0.79	+0.05	9,279	19,796
VK-137	-304	-316	34.93	36.40	+0.40	2.24	+0.10	0.64	+0.04	36.04	+0.10	0.79	+0.05	9,513	20,182
VKM-35	-304	-316	35.00	36.47	+0.38	2.24	+0.10	0.64	+0.04	36.12	+0.10	0.79	+0.05	9,552	20,378
VKM-36	-304	-316	36.00	37.48	+0.38	2.24	+0.10	0.64	+0.04	37.12	+0.10	0.79	+0.05	9,825	20,960
VK-143	-304	-316	36.50	38.00	+0.40	2.24	+0.10	0.64	+0.04	37.62	+0.10	0.79	+0.05	9,957	21,071

¹Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

²Superscript numeral 2 at the top-right corner of the part number indicates the component is designed without disassembly notches; all unmarked items feature standard disassembly notches as illustrated.

³Superscript numeral 3 at the top-right corner of the part number signifies square-edge wire construction; all unmarked items adopt flat-edge wire construction.

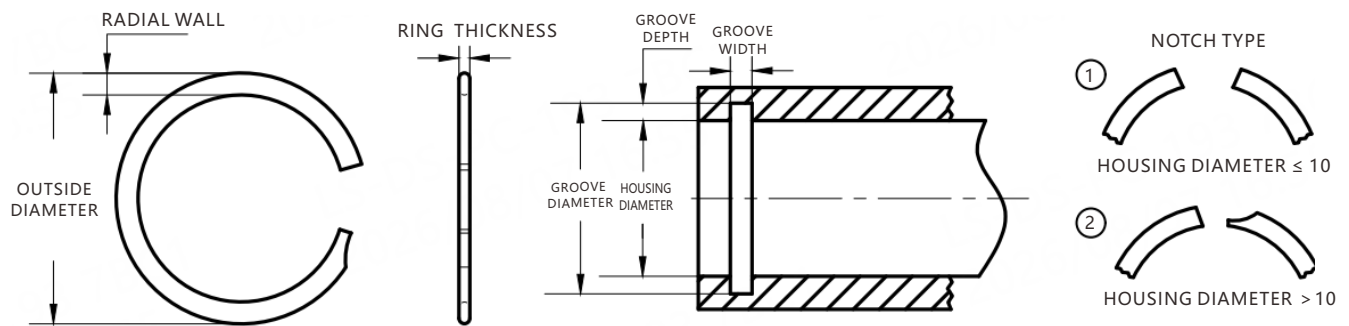
Single Turn Spiral Retaining Rings for Bore



Lispring Part Number ¹			Housing Diameter (mm)	Ring					Groove				Thrust Capacity		
Carbon Steel	304 SS	316 SS		Outside Diameter (mm)		Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)
	Add Suffix	Add Suffix													
VKM-37	-304	-316	37.00	38.49	+0.38	2.24	±0.10	0.64	±0.04	38.12	±0.10	0.79	+0.05	10,098	21,543
VKM-38	-304	-316	38.00	39.50	+0.38	2.24	±0.10	0.64	±0.04	39.12	±0.10	0.79	+0.05	10,371	22,125
VK-150	-304	-316	38.10	39.60	+0.40	2.24	±0.10	0.64	±0.04	39.22	±0.10	0.79	+0.05	10,358	22,004
VK-156	-304	-316	39.67	41.58	+0.50	3.00	±0.10	0.79	±0.05	41.12	±0.13	0.99	+0.08	14,225	28,405
VKM-40	-304	-316	40.00	41.94	+0.51	3.00	±0.10	0.79	±0.05	41.48	±0.13	0.99	+0.08	14,426	28,748
VK-162	-304	-316	41.28	43.21	+0.50	3.00	±0.10	0.79	±0.05	42.72	±0.13	0.99	+0.08	14,803	29,561
VKM-42	-304	-316	42.00	43.96	+0.51	3.00	±0.10	0.79	±0.05	43.48	±0.13	0.99	+0.08	15,147	30,185
VK-168	-304	-316	42.85	44.78	+0.50	3.00	±0.10	0.79	±0.05	44.30	±0.13	0.99	+0.08	15,381	30,672
VK-175	-304	-316	44.45	46.41	+0.50	3.00	±0.10	0.79	±0.05	45.90	±0.13	0.99	+0.08	15,959	31,828
VKM-45	-304	-316	45.00	46.99	+0.51	3.00	±0.10	0.79	±0.05	46.48	±0.13	0.99	+0.08	16,229	32,341
VK-181	-304	-316	46.02	48.01	+0.50	3.00	±0.10	0.79	±0.05	47.47	±0.13	0.99	+0.08	16,492	32,940
VKM-47	-304	-316	47.00	49.00	+0.51	3.00	±0.10	0.79	±0.05	48.48	±0.13	0.99	+0.08	16,950	33,779
VK-187	-304	-316	47.63	49.61	+0.50	3.00	±0.10	0.79	±0.05	49.07	±0.13	0.99	+0.08	17,070	34,095
VKM-48	-304	-316	48.00	50.01	+0.51	3.00	±0.10	0.79	±0.05	49.48	±0.13	0.99	+0.08	17,311	34,497
VK-193	-304	-316	49.20	51.21	+0.50	3.00	±0.10	0.79	±0.05	50.65	±0.13	0.99	+0.08	17,648	35,207
VKM-50	-304	-316	50.00	52.04	+0.51	3.00	±0.10	0.79	±0.05	51.48	±0.13	0.99	+0.08	18,032	35,935
VK-200	-304	-316	50.80	52.81	+0.50	3.00	±0.10	0.79	±0.05	52.25	±0.13	0.99	+0.08	18,226	36,362
VKM-52	-304	-316	52.00	54.55	+0.64	4.01	±0.10	0.79	±0.05	53.94	±0.13	0.99	+0.08	24,583	37,372
VK-206	-304	-316	52.37	54.91	+0.65	4.01	±0.10	0.79	±0.05	54.31	±0.15	0.99	+0.08	24,627	37,474
VK-212	-304	-316	53.98	56.54	+0.65	4.01	±0.10	0.79	±0.05	55.91	±0.15	0.99	+0.08	25,383	38,629
VKM-55	-304	-316	55.00	57.57	+0.64	4.01	±0.10	0.79	±0.05	56.94	±0.15	0.99	+0.08	26,001	39,528
VK-218	-304	-316	55.55	58.14	+0.65	4.01	±0.10	0.79	±0.05	57.48	±0.15	0.99	+0.08	26,094	39,785
VKM-56	-304	-316	56.00	58.58	+0.64	4.01	±0.10	0.79	±0.05	57.94	±0.15	0.99	+0.08	26,473	40,247
VK-225	-304	-316	57.15	59.74	+0.65	4.01	±0.10	0.79	±0.05	59.08	±0.15	0.99	+0.08	26,849	40,897
VKM-58	-304	-316	58.00	60.60	+0.64	4.01	±0.10	0.79	±0.05	59.94	±0.15	0.99	+0.08	27,419	41,684
VK-231	-304	-316	58.72	61.34	+0.65	4.01	±0.10	0.79	±0.05	60.66	±0.15	0.99	+0.08	27,605	42,052
VKM-60	-304	-316	60.00	62.64	+0.64	4.01	±0.10	0.79	±0.05	61.94	±0.15	0.99	+0.08	28,364	43,122
VK-237	-304	-316	60.33	62.94	+0.65	4.01	±0.10	0.79	±0.05	62.26	±0.15	0.99	+0.08	28,361	43,208
VK-243	-304	-316	61.90	64.54	+0.65	4.01	±0.10	0.79	±0.05	63.83	±0.15	0.99	+0.08	29,117	44,319
VKM-62	-304	-316	62.00	64.67	+0.64	4.01	±0.10	0.79	±0.05	63.94	±0.15	0.99	+0.08	29,310	44,559
VKM-63	-304	-316	63.00	65.69	+0.64	4.01	±0.10	0.79	±0.05	64.94	±0.15	0.99	+0.08	29,783	45,278
VK-250	-304	-316	63.50	66.17	+0.65	4.01	±0.10	0.79	±0.05	65.43	±0.15	0.99	+0.08	29,872	45,475
VKM-65	-304	-316	65.00	67.70	+0.64	4.01	±0.10	0.79	±0.05	66.94	±0.15	0.99	+0.08	30,728	46,715
VK-256	-304	-316	65.07	67.74	+0.65	4.01	±0.10	0.79	±0.05	67.01	±0.15	0.99	+0.08	30,584	46,587
VK-262	-304	-316	66.68	69.37	+0.65	4.01	±0.10	0.79	±0.05	68.61	±0.15	0.99	+0.08	31,339	47,742
VKM-68	-304	-316	68.00	70.72	+0.64	4.01	±0.10	0.79	±0.05	69.94	±0.15	0.99	+0.08	32,146	48,871
VK-268	-304	-316	68.25	70.97	+0.65	4.01	±0.10	0.79	±0.05	70.18	±0.15	0.99	+0.08	32,095	48,854
VK-275	-304	-316	69.85	72.57	+0.65	4.01	±0.10	0.79	±0.05	71.78	±0.15	0.99	+0.08	32,851	50,009
VKM-70	-304	-316	70.00	72.74	+0.64	4.01	±0.10	0.79	±0.05	71.94	±0.15	0.99	+0.08	33,092	50,309
VK-281	-304	-316	71.42	74.17	+0.65	4.01	±0.10	0.79	±0.05	73.36	±0.15	0.99	+0.08	33,562	51,121
VKM-72	-304	-316	72.00	74.77	+0.64	4.01	±0.10	0.79	±0.05	73.94	±0.15	0.99	+0.08	34,037	51,746
VK-287	-304	-316	73.03	75.77	+0.65	4.01	±0.10	0.79	±0.05	74.96	±0.15	0.99	+0.08	34,318	52,276
VK-293	-304	-316	74.60	77.37	+0.65	4.01	±0.10	0.79	±0.05	76.53	±0.15	0.99	+0.08	35,073	53,388
VKM-75	-304	-316	75.00	77.80	+0.64	4.01	±0.10	0.79	±0.05	76.94	±0.15	0.99	+0.08	35,456	53,902
VK-300	-304	-316	76.20	78.99	+0.65	4.01	±0.10	0.79	±0.05	78.13	±0.15	0.99	+0.08	35,829	54,544
VK-306	-304	-316	77.77	80.98	+0.80	4.78	±0.13	0.99	±0.05	80.11	±0.15	1.12	+0.08	44,275	70,058
VKM-78	-304	-316	78.00	81.20	+0.76	4.78	±0.13	0.99	±0.05	80.34	±0.15	1.12	+0.08	44,477	70,250
VK-312	-304	-316	79.38	82.58	+0.80	4.78	±0.13	0.99	±0.05	81.71	±0.15	1.12	+0.08	45,164	71,480

¹Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

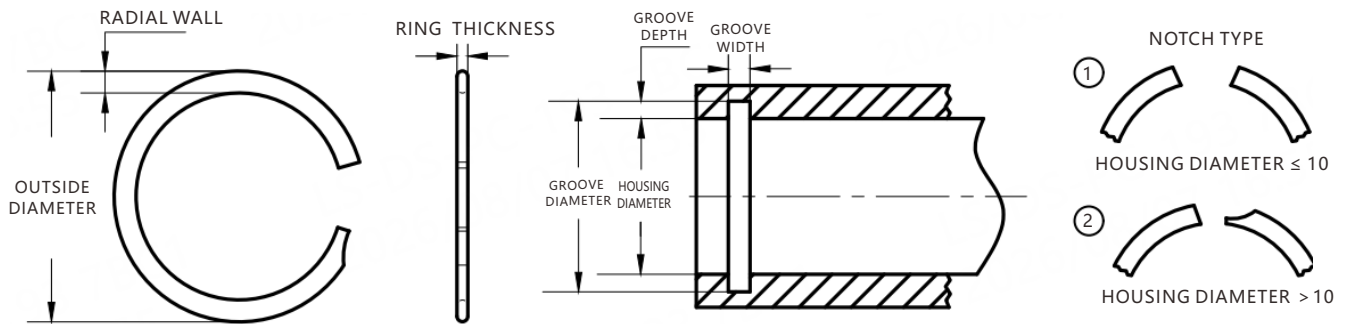
Single Turn Spiral Retaining Rings for Bore



Lispring Part Number ¹			Housing Diameter (mm)	Ring						Groove			Thrust Capacity		
Carbon Steel	304 SS	316 SS		Outside Diameter (mm)	Radial Wall (mm)	Thickness (mm)		Diameter (mm)	Width (mm)	Groove Yield (N)	Ring Shear (N)				
	Add Suffix	Add Suffix													
VKM-80	-304	-316	80.00	83.23	+0.76	4.78	±0.13	0.99	±0.05	82.34	±0.15	1.12	+0.08	45,617	72,052
VK-318	-304	-316	80.95	84.18	+0.80	4.78	±0.13	0.99	±0.05	83.29	±0.15	1.12	+0.08	46,053	72,903
VKM-82	-304	-316	82.00	85.25	+0.76	4.78	±0.13	0.99	±0.05	84.34	±0.15	1.12	+0.08	46,757	73,853
VK-325	-304	-316	82.55	85.78	+0.80	4.78	±0.13	0.99	±0.05	84.88	±0.15	1.12	+0.08	46,987	74,325
VK-331	-304	-316	84.12	87.38	+0.80	4.78	±0.13	0.99	±0.05	86.46	±0.15	1.12	+0.08	47,876	75,748
VKM-85	-304	-316	85.00	88.29	+0.76	4.78	±0.13	0.99	±0.05	87.34	±0.15	1.12	+0.08	48,468	76,555
VK-337	-304	-316	85.73	89.00	+0.80	4.78	±0.13	0.99	±0.05	88.06	±0.15	1.12	+0.08	48,765	77,215
VK-343	-304	-316	87.30	90.58	+0.80	4.78	±0.13	0.99	±0.05	89.64	±0.15	1.12	+0.08	49,698	78,637
VKM-88	-304	-316	88.00	91.32	+0.76	4.78	±0.13	0.99	±0.05	90.34	±0.15	1.12	+0.08	50,179	79,257
VK-350	-304	-316	88.90	92.20	+0.80	4.78	±0.13	0.99	±0.05	91.24	±0.15	1.12	+0.08	50,587	80,059
VKM-90	-304	-316	90.00	93.36	+0.76	4.78	±0.13	0.99	±0.05	92.34	±0.15	1.12	+0.08	51,319	81,058
VK-356	-304	-316	90.47	93.78	+0.80	4.78	±0.13	0.99	±0.05	92.81	±0.15	1.12	+0.08	51,476	81,482
VKM-92	-304	-316	92.00	95.37	+0.76	4.78	±0.13	0.99	±0.05	94.34	±0.15	1.12	+0.08	52,460	82,859
VK-362	-304	-316	92.08	95.40	+0.80	4.78	±0.13	0.99	±0.05	94.41	±0.15	1.12	+0.08	52,410	82,904
VK-368	-304	-316	93.65	97.00	+0.80	4.78	±0.13	0.99	±0.05	95.99	±0.15	1.12	+0.08	53,299	84,327
VKM-95	-304	-316	95.00	98.39	+0.76	4.78	±0.13	0.99	±0.05	97.34	±0.15	1.12	+0.08	54,170	85,561
VK-375	-304	-316	95.25	98.60	+0.80	4.78	±0.13	0.99	±0.05	97.59	±0.15	1.12	+0.08	54,188	85,794
VK-381	-304	-316	96.82	100.20	+0.80	4.78	±0.13	0.99	±0.05	99.16	±0.15	1.12	+0.08	55,121	87,216
VKM-98	-304	-316	98.00	101.41	+0.76	4.78	±0.13	0.99	±0.05	100.34	±0.15	1.12	+0.08	55,881	88,263
VK-387	-304	-316	98.43	101.83	+0.80	4.78	±0.13	0.99	±0.05	100.76	±0.15	1.12	+0.08	56,011	88,639
VK-393	-304	-316	100.00	103.40	+0.80	4.78	±0.13	0.99	±0.05	102.34	±0.15	1.12	+0.08	56,900	90,061
VKM-100	-304	-316	100.00	103.43	+0.76	4.78	±0.13	0.99	±0.05	102.34	±0.15	1.12	+0.08	57,021	90,064
VK-400	-304	-316	101.60	105.03	+0.80	4.78	±0.13	0.99	±0.05	103.94	±0.15	1.12	+0.08	57,833	91,484
VKM-102	-304	-316	102.00	105.44	+0.76	4.78	±0.13	0.99	±0.05	104.34	±0.15	1.12	+0.08	58,162	91,866
VK-412	-304	-316	104.78	108.69	+0.90	5.72	±0.13	1.17	±0.05	107.57	±0.15	1.32	+0.10	71,302	106,020
VKM-105	-304	-316	105.00	108.92	+0.89	5.72	±0.13	1.17	±0.05	107.80	±0.15	1.32	+0.10	71,642	106,440
VK-425	-304	-316	107.95	111.89	+0.90	5.72	±0.13	1.17	±0.05	110.74	±0.15	1.32	+0.10	73,436	109,221
VKM-110	-304	-316	110.00	113.98	+0.89	5.72	±0.13	1.17	±0.05	112.80	±0.15	1.32	+0.10	75,054	111,508
VK-437	-304	-316	111.13	115.09	+0.90	5.72	±0.13	1.17	±0.05	113.92	±0.15	1.32	+0.10	75,614	112,421
VKM-112	-304	-316	112.00	116.01	+0.89	5.72	±0.13	1.17	±0.05	114.80	±0.15	1.32	+0.10	76,418	113,536
VK-450	-304	-316	114.30	118.31	+0.90	5.72	±0.13	1.17	±0.05	117.09	±0.15	1.32	+0.10	77,792	115,622
VKM-115	-304	-316	115.00	119.12	+0.89	5.72	±0.13	1.17	±0.05	117.88	±0.15	1.32	+0.10	80,707	116,577
VK-462	-304	-316	117.48	121.51	+0.90	5.72	±0.13	1.17	±0.05	120.27	±0.15	1.32	+0.10	79,926	118,867
VKM-120	-304	-316	120.00	124.30	+0.89	5.72	±0.13	1.17	±0.05	123.00	±0.15	1.32	+0.10	87,725	121,645
VK-475	-304	-316	120.65	124.71	+0.90	5.72	±0.13	1.17	±0.05	123.44	±0.15	1.32	+0.10	82,104	122,067
VK-487	-304	-316	123.82	127.91	+0.90	5.72	±0.13	1.17	±0.05	126.62	±0.15	1.32	+0.10	84,238	125,268
VKM-125	-304	-316	125.00	129.47	+0.89	5.72	±0.13	1.17	±0.05	128.12	±0.18	1.32	+0.10	95,036	126,714
VK-500	-304	-316	127.00	131.14	+0.90	5.72	±0.13	1.17	±0.05	129.79	±0.18	1.32	+0.10	86,416	128,469
VKM-130	-304	-316	130.00	134.66	+0.89	5.72	±0.13	1.17	±0.05	133.26	±0.18	1.32	+0.10	103,272	131,783
VK-525	-304	-316	133.35	138.05	+1.15	5.72	±0.13	1.55	±0.05	136.68	±0.18	1.70	+0.10	108,865	178,878
VKM-135	-304	-316	135.00	139.83	+0.89	5.72	±0.13	1.55	±0.05	138.38	±0.18	1.70	+0.10	111,192	181,299
VK-550	-304	-316	139.70	144.63	+1.15	5.72	±0.13	1.55	±0.05	143.21	±0.18	1.70	+0.10	119,267	187,413
VKM-140	-304	-316	140.00	145.00	+1.14	5.72	±0.13	1.55	±0.05	143.50	±0.18	1.70	+0.10	119,404	188,013
VKM-145	-304	-316	145.00	150.17	+1.14	5.72	±0.13	1.55	±0.05	148.62	±0.18	1.70	+0.10	127,974	194,907
VK-575	-304	-316	146.05	151.21	+1.15	5.72	±0.13	1.55	±0.05	149.71	±0.18	1.70	+0.10	130,069	195,948
VKM-150	-304	-316	150.00	155.30	+1.14	6.73	±0.13	1.55	±0.05	153.76	±0.18	1.70	+0.10	137,436	201,443
VK-600	-304	-316	152.40	157.78	+1.15	6.73	±0.13	1.55	±0.05	156.21	±0.18	1.70	+0.10	141,404	204,438
VKM-155	-304	-316	155.00	160.46	+1.14	6.73	±0.13	1.55	±0.05	158.88	±0.18	1.70	+0.10	146,361	208,158

¹Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

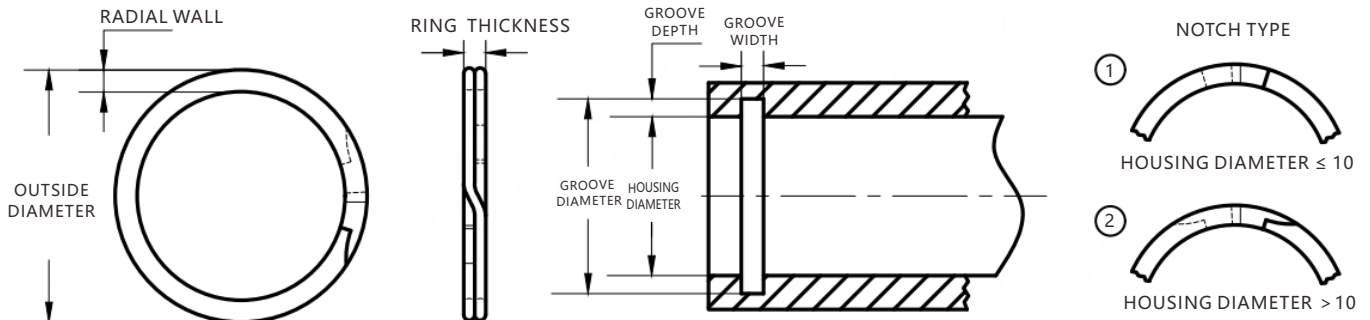
Single Turn Spiral Retaining Rings for Bore



Lispring Part Number ¹			Housing Diameter (mm)	Ring						Groove			Thrust Capacity		
Carbon Steel	304 SS	316 SS		Outside Diameter (mm)	Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)	
	Add Suffix	Add Suffix													
VK-625	-304	-316	158.75	164.34	+1.15	6.73	±0.13	1.55	±0.05	162.71	±0.20	1.70	±0.10	153,184	212,973
VKM-160	-304	-316	160.00	165.64	+1.14	6.73	±0.13	1.55	±0.05	164.00	±0.20	1.70	±0.10	155,956	214,872
VKM-165	-304	-316	165.00	170.82	+1.14	6.73	±0.13	1.55	±0.05	169.13	±0.20	1.70	±0.10	165,855	221,587
VK-650	-304	-316	165.10	170.94	+1.15	6.73	±0.13	1.55	±0.05	169.24	±0.20	1.70	±0.10	167,498	221,508
VKM-170	-304	-316	170.00	175.99	+1.14	6.73	±0.13	1.55	±0.05	174.25	±0.20	1.70	±0.10	176,059	228,302
VK-675	-304	-316	171.45	177.50	+1.15	6.73	±0.13	1.55	±0.05	175.74	±0.20	1.70	±0.10	180,301	229,999
VKM-175	-304	-316	175.00	181.17	+1.14	6.73	±0.13	1.55	±0.05	179.38	±0.20	1.70	±0.10	186,568	235,017
VK-700	-304	-316	177.80	184.07	+1.15	6.73	±0.13	1.55	±0.05	182.25	±0.20	1.70	±0.10	193,547	238,534
VKM-180	-304	-316	180.00	186.35	+1.52	6.73	±0.13	1.55	±0.05	184.50	±0.20	1.70	±0.10	197,381	241,731
VK-725	-304	-316	184.15	190.14	+1.50	6.73	±0.13	1.55	±0.05	188.75	±0.20	1.70	±0.10	207,328	247,069
VKM-185	-304	-316	185.00	191.52	+1.52	6.73	±0.13	1.55	±0.05	189.63	±0.20	1.70	±0.10	208,499	248,446
VKM-190	-304	-316	190.00	196.70	+1.52	6.73	±0.13	1.55	±0.05	194.75	±0.20	1.70	±0.10	219,922	255,161
VK-750	-304	-316	190.50	197.23	+1.50	6.73	±0.13	1.55	±0.05	195.28	±0.20	1.70	±0.10	221,508	255,559
VKM-195	-304	-316	195.00	201.87	+1.52	7.62	±0.15	1.55	±0.05	199.88	±0.20	1.70	±0.10	231,649	261,876
VK-775	-304	-316	196.85	203.78	+1.50	7.62	+0.1/-0.2	1.55	±0.05	201.78	±0.20	1.70	±0.10	236,222	264,094
VKM-200	-304	-316	200.00	207.05	+1.52	7.62	±0.15	1.55	±0.05	205.00	±0.20	1.70	±0.10	243,681	268,590
VK-800	-304	-316	203.20	210.36	+1.50	7.62	+0.1/-0.2	1.55	±0.05	208.28	±0.20	1.70	±0.10	251,381	272,585
VK-825	-304	-316	209.55	216.94	+1.50	7.62	+0.1/-0.2	1.55	±0.05	214.78	±0.20	1.70	±0.10	267,028	281,120
VKM-210	-304	-316	210.00	217.40	+1.52	7.62	±0.15	1.55	±0.05	215.25	±0.20	1.70	±0.10	268,658	282,020
VK-850	-304	-316	215.90	223.52	+1.50	7.62	+0.1/-0.2	1.55	±0.05	221.31	±0.20	1.70	±0.10	285,787	289,654
VKM-220	-304	-316	220.00	227.76	+1.52	8.76	±0.15	1.93	±0.05	225.50	±0.20	2.08	+0.13	294,854	367,882
VK-875	-304	-316	222.25	230.10	+1.50	8.76	+0.1/-0.2	1.93	±0.05	227.81	±0.20	2.08	+0.13	302,457	371,492
VK-900	-304	-316	228.60	236.65	+1.80	8.76	+0.1/-0.2	1.93	±0.05	234.32	±0.20	2.08	+0.13	319,571	382,072
VKM-230	-304	-316	230.00	238.11	+1.78	8.76	±0.15	1.93	±0.05	235.75	±0.20	2.08	+0.13	322,268	384,604
VK-925	-304	-316	234.95	243.23	+1.80	8.76	+0.1/-0.2	1.93	±0.05	240.82	±0.20	2.08	+0.13	337,174	392,696
VKM-240	-304	-316	240.00	248.46	+1.78	8.76	±0.15	1.93	±0.05	246.00	±0.20	2.08	+0.13	350,900	401,326
VK-950	-304	-316	241.30	249.81	+1.80	8.76	+0.1/-0.2	1.93	±0.05	247.35	±0.20	2.08	+0.13	355,222	403,320
VK-975	-304	-316	247.65	256.39	+1.80	8.76	+0.1/-0.2	1.93	±0.05	253.85	±0.20	2.08	+0.13	373,759	413,944
VKM-250	-304	-316	250.00	258.81	+1.78	8.76	±0.15	1.93	±0.05	256.25	±0.20	2.08	+0.13	380,751	418,048
VK-1000	-304	-316	254.00	262.97	+1.80	8.76	+0.1/-0.2	1.93	±0.05	260.35	±0.20	2.08	+0.13	392,785	424,524
VKM-260	-304	-316	260.00	269.17	+1.78	9.65	±0.15	1.93	±0.05	266.50	±0.20	2.08	+0.13	411,821	434,770
VKM-270	-304	-316	270.00	279.52	+1.78	9.65	±0.15	1.93	±0.05	276.75	±0.20	2.08	+0.13	444,108	451,492
VKM-280	-304	-316	280.00	289.87	+1.78	9.65	±0.15	1.93	±0.05	287.00	±0.20	2.08	+0.13	477,614	468,214
VKM-290	-304	-316	290.00	300.22	+1.78	9.65	±0.15	1.93	±0.05	297.25	±0.20	2.08	+0.13	512,339	484,936
VKM-300	-304	-316	300.00	310.58	+1.78	9.65	±0.15	1.93	±0.05	307.50	±0.20	2.08	+0.13	548,282	501,658

¹Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

2-Turn Spiral Retaining Rings For Bore



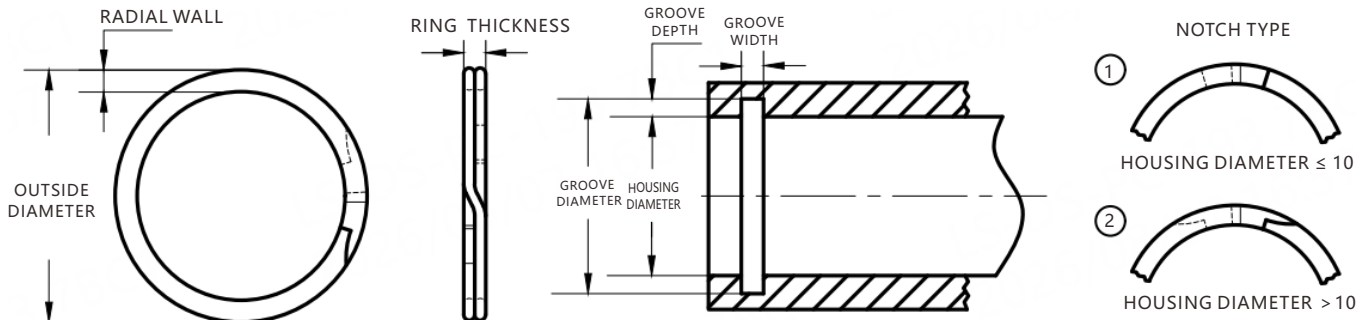
Lispring Part Number ¹			Housing Diameter (mm)	Ring						Groove			Thrust Capacity		
Carbon Steel	304 SS	316 SS		Outside Diameter (mm)	Radial Wall (mm)		Thickness (mm)		Diameter (mm)	Width (mm)		Groove Yield (N)	Ring Shear (N)		
	Add Suffix	Add Suffix													
EK-6 ^{2,3}	-304	-316	6.00	6.35	+0.25	0.43	±0.10	0.38	±0.05	6.30	±0.05	0.51	+0.08	440	1,880
WKM-25 ^{2,3}	-304	-316	6.35	6.86	+0.25	0.51	+0.08/-0.12	0.38	±0.05	6.81	±0.05	0.51	+0.08	707	2,494
EK-7 ^{2,3}	-304	-316	7.00	7.37	+0.25	0.43	±0.10	0.38	±0.05	7.32	±0.05	0.51	+0.08	550	2,190
WKM-31 ^{2,3}	-304	-316	7.92	8.46	+0.25	0.64	+0.08/-0.12	0.38	±0.05	8.38	±0.05	0.51	+0.08	880	3,112
EK-8 ^{2,3}	-304	-316	8.00	8.51	+0.25	0.61	±0.10	0.38	±0.05	8.43	±0.05	0.51	+0.08	840	2,500
EK-9 ^{2,3}	-304	-316	9.00	9.60	+0.25	0.74	±0.10	0.64	±0.05	9.50	±0.05	0.74	+0.08	1,100	4,740
WKM-37 ^{2,3}	-304	-316	9.53	10.16	+0.25	0.76	+0.08/-0.12	0.64	±0.05	10.08	±0.05	0.74	+0.08	1,298	6,410
EK-10 ^{2,3}	-304	-316	10.00	10.62	+0.25	0.74	±0.10	0.64	±0.05	10.52	±0.05	0.74	+0.08	1,270	5,270
EK-11 ³	-304	-316	11.00	11.79	+0.30	0.86	±0.10	0.64	±0.05	11.71	±0.05	0.74	+0.08	1,900	5,790
WKM-43	-304	-316	11.10	11.79	+0.30	0.89	+0.08/-0.12	0.64	±0.05	11.71	±0.05	0.74	+0.08	1,649	7,468
EK-12	-304	-316	12.00	12.89	+0.35	1.12	±0.10	0.60	±0.05	12.70	±0.05	0.70	+0.08	2,050	7,950
WKT-50	-304	-316	12.70	13.44	+0.33	1.14	±0.10	0.89	±0.05	13.31	±0.05	0.99	+0.08	1,867	11,247
WK-50	-304	-316	12.70	13.51	+0.33	1.14	+0.08/-0.12	0.64	±0.05	13.36	±0.05	0.76	+0.08	2,045	8,891
WKM-50	-304	-316	12.70	13.67	+0.33	1.14	+0.08/-0.12	0.89	±0.05	13.46	±0.05	0.99	+0.08	2,356	11,247
DNK-13	-304	-316	13.00	13.72	+0.33	1.40	±0.10	0.99	±0.05	13.60	+0.11	1.10	+0.14	1,901	13,474
WKT-51	-304	-316	13.00	13.74	+0.33	1.14	±0.10	0.89	±0.05	13.61	±0.08	0.99	+0.08	1,911	11,513
WK-51	-304	-316	13.00	13.82	+0.33	1.14	+0.08/-0.12	0.64	±0.05	13.67	±0.05	0.76	+0.08	2,089	9,113
EK-13	-304	-316	13.00	13.95	+0.35	1.12	±0.10	0.89	±0.05	13.75	±0.05	1.00	+0.08	2,410	12,110
WKM-51	-304	-316	13.00	13.97	+0.33	1.14	+0.08/-0.12	0.89	±0.05	13.77	±0.05	0.99	+0.08	2,400	11,513
WK-53	-304	-316	13.49	14.33	+0.33	1.14	+0.08/-0.12	0.64	±0.05	14.15	±0.05	0.76	+0.08	2,178	9,468
DNK-14	-304	-316	14.00	14.75	+0.33	1.40	±0.10	0.99	±0.05	14.60	+0.11	1.10	+0.14	2,047	14,510
EK-14	-304	-316	14.00	15.07	+0.35	1.37	±0.10	0.89	±0.05	14.85	±0.05	1.00	+0.08	2,930	13,040
WK-56	-304	-316	14.27	15.09	+0.33	1.14	+0.08/-0.12	0.64	±0.05	14.94	±0.05	0.76	+0.08	2,312	10,002
WKT-56	-304	-316	14.27	15.16	+0.33	1.14	±0.10	0.89	±0.05	15.04	±0.05	0.99	+0.08	2,667	12,625
WKM-56	-304	-316	14.27	15.37	+0.33	1.40	+0.08/-0.12	0.89	±0.05	15.14	±0.05	0.99	+0.08	3,023	12,625
DNK-15	-304	-316	15.00	15.85	+0.33	1.40	±0.10	0.99	±0.05	15.70	+0.11	1.10	+0.14	2,559	15,547
WK-59	-304	-316	15.09	15.90	+0.33	1.14	+0.08/-0.12	0.64	±0.05	15.72	±0.05	0.76	+0.08	2,445	10,580
EK-15	-304	-316	15.00	16.14	+0.35	1.37	±0.10	0.89	±0.05	15.90	±0.05	1.00	+0.08	3,290	13,970
WK-62	-304	-316	15.88	16.71	+0.33	1.14	+0.08/-0.12	0.64	±0.05	16.54	±0.05	0.76	+0.08	2,534	11,113
WKT-62	-304	-316	15.88	16.89	+0.33	1.14	±0.10	0.89	±0.05	16.74	±0.08	0.99	+0.08	3,334	14,047
DNK-16	-304	-316	16.00	16.97	+0.33	1.65	±0.10	0.99	±0.05	16.80	+0.11	1.10	+0.14	3,119	16,583
EK-16	-304	-316	16.00	17.15	+0.35	1.37	±0.10	0.89	±0.05	16.95	±0.05	1.00	+0.08	3,740	14,900
WKM-62	-304	-316	15.88	17.15	+0.33	1.40	+0.08/-0.12	0.89	±0.05	16.89	±0.05	0.99	+0.08	3,912	14,047
WK-65	-304	-316	16.66	17.50	+0.33	1.14	+0.08/-0.12	0.64	±0.05	17.32	±0.05	0.76	+0.08	2,667	11,691
DNK-17	-304	-316	17.00	17.98	+0.33	1.65	±0.10	0.99	±0.05	17.80	+0.11	1.10	+0.14	3,314	17,620
WK-68	-304	-316	17.45	18.29	+0.33	1.14	+0.08/-0.12	0.64	±0.05	18.11	±0.05	0.76	+0.08	2,801	12,225
EK-17	-304	-316	17.00	18.32	+0.35	1.63	±0.10	0.89	±0.05	18.05	±0.05	1.00	+0.08	4,390	15,830
WKT-68	-304	-316	17.48	18.54	+0.33	1.40	±0.10	0.89	±0.05	18.39	±0.08	0.99	+0.08	3,912	15,470
WKM-68	-304	-316	17.48	18.87	+0.33	1.65	+0.08/-0.12	0.89	±0.05	18.59	±0.05	0.99	+0.08	4,756	15,470
WK-71	-304	-316	18.24	19.08	+0.33	1.14	+0.08/-0.12	0.64	±0.05	18.90	±0.05	0.76	+0.08	2,934	12,758
DNK-18	-304	-316	18.00	19.18	+0.33	1.91	±0.10	0.99	±0.05	19.00	+0.13	1.10	+0.14	4,386	18,656
EK-18	-304	-316	18.00	19.39	+0.35	1.63	±0.10	0.89	±0.05	19.10	±0.05	1.00	+0.08	4,820	16,760
WK-75	-304	-316	19.05	20.07	+0.33	1.65	+0.08/-0.12	0.79	±0.05	19.86	±0.05	0.91	+0.08	3,778	14,936
DNK-19	-304	-316	19.00	20.19	+0.33	1.91	±0.10	0.99	±0.05	20.00	+0.13	1.10	+0.14	4,630	19,693
WKT-75	-304	-316	19.05	20.22	+0.33	1.40	±0.10	0.89	±0.05	20.07	±0.08	0.99	+0.08	4,712	16,848
EK-19	-304	-316	19.00	20.48	+0.35	1.63	±0.10	0.89	±0.05	20.17	±0.08	1.00	+0.08	5,460	17,690
WKM-75	-304	-316	19.05	20.50	+0.33	1.65	+0.08/-0.12	0.89	±0.05	20.22	±0.05	0.99	+0.08	5,423	16,848
WK-77	-304	-316	19.74	20.75	+0.33	1.65	+0.08/-0.12	0.79	±0.05	20.52	±0.08	0.91	+0.08	3,912	15,470

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

² Superscript numeral 2 at the top-right corner of the part number indicates the component is designed without disassembly notches; all unmarked items feature standard disassembly notches as illustrated.

³ Superscript numeral 3 at the top-right corner of the part number signifies square-edge wire construction; all unmarked items adopt flat-edge wire construction.

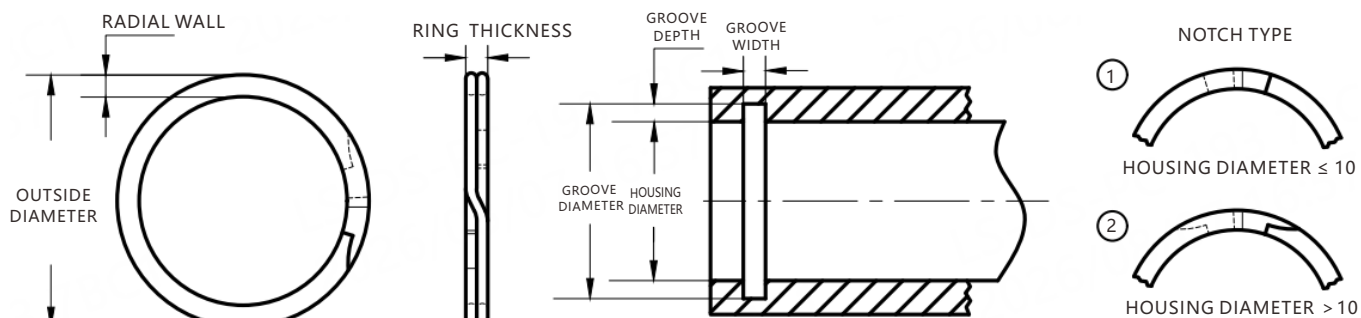
2-Turn Spiral Retaining Rings For Bore



Lispring Part Number ¹			Housing Diameter (mm)	Ring						Groove				Thrust Capacity	
Carbon Steel	304 SS	316 SS		Outside Diameter (mm)	Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)	
	Add Suffix	Add Suffix													
WK-78	-304	-316	19.84	20.85	+0.33	1.65	+0.08/-0.12	0.79	+0.05	20.62	+0.08	0.91	+0.08	3,912	15,558
WKT-77	-304	-316	19.74	20.96	+0.33	1.65	+0.10	1.07	+0.05	20.80	+0.08	1.17	+0.08	5,112	20,982
DNK-20	-304	-316	20.00	21.21	+0.33	1.91	+0.10	0.99	+0.05	21.00	+0.13	1.10	+0.14	4,874	20,729
WKM-77	-304	-316	19.74	21.23	+0.33	1.91	+0.08/-0.12	1.07	+0.05	20.96	+0.08	1.17	+0.08	5,868	20,982
EK-20	-304	-316	20.00	21.51	+0.35	1.88	+0.10	0.89	+0.05	21.22	+0.08	1.00	+0.08	5,940	18,620
WK-81	-304	-316	20.62	21.67	+0.33	1.65	+0.08/-0.12	0.79	+0.05	21.41	+0.08	0.91	+0.08	4,090	16,181
WKT-81	-304	-316	20.62	21.95	+0.33	1.65	+0.10	1.07	+0.05	21.77	+0.08	1.17	+0.08	5,868	21,915
WKM-81	-304	-316	20.62	22.17	+0.33	1.91	+0.08/-0.12	1.07	+0.05	21.89	+0.08	1.17	+0.08	6,401	21,915
DNK-21	-304	-316	21.00	22.23	+0.33	1.91	+0.10	0.99	+0.05	22.00	+0.13	1.10	+0.14	5,117	21,766
EK-21	-304	-316	21.00	22.56	+0.35	1.88	+0.10	0.89	+0.05	22.27	+0.08	1.00	+0.08	6,550	19,550
WK-84	-304	-316	21.41	22.58	+0.33	1.65	+0.08/-0.12	0.79	+0.05	22.35	+0.08	0.91	+0.08	5,023	16,803
WK-86	-304	-316	22.00	23.19	+0.33	1.65	+0.08/-0.12	0.79	+0.05	22.94	+0.08	0.91	+0.08	5,157	17,248
DNK-22	-304	-316	22.00	23.23	+0.33	1.91	+0.10	0.99	+0.05	23.00	+0.13	1.10	+0.14	5,361	22,802
WKT-86	-304	-316	22.00	23.34	+0.33	1.65	+0.10	1.07	+0.05	23.16	+0.08	1.17	+0.08	6,268	23,382
WK-87	-304	-316	22.23	23.42	+0.33	1.65	+0.08/-0.12	0.79	+0.05	23.16	+0.08	0.91	+0.08	5,245	17,425
WKT-87	-304	-316	22.23	23.60	+0.33	1.65	+0.10	1.07	+0.05	23.42	+0.08	1.17	+0.08	6,579	23,604
EK-22	-304	-316	22.00	23.65	+0.35	1.88	+0.10	1.07	+0.05	23.37	+0.08	1.20	+0.08	7,390	24,630
WKM-86	-304	-316	22.00	23.65	+0.33	1.91	+0.08/-0.12	1.07	+0.05	23.37	+0.08	1.17	+0.08	7,335	23,382
WKM-87	-304	-316	22.23	23.95	+0.33	2.16	+0.08/-0.12	1.07	+0.05	23.65	+0.08	1.17	+0.08	7,690	23,604
WK-90	-304	-316	23.01	24.10	+0.33	1.65	+0.08/-0.12	0.79	+0.05	23.85	+0.08	0.91	+0.08	5,423	18,048
WKT-90	-304	-316	22.89	24.31	+0.33	1.65	+0.10	1.07	+0.05	24.13	+0.08	1.17	+0.08	7,068	24,316
DNK-23	-304	-316	23.00	24.33	+0.38	2.16	+0.10	1.14	+0.05	24.10	+0.21	1.30	+0.14	6,165	23,853
EK-23	-304	-316	23.00	24.69	+0.35	2.14	+0.10	1.07	+0.05	24.42	+0.08	1.20	+0.08	7,950	25,750
WKM-90	-304	-316	22.89	24.69	+0.33	2.16	+0.08/-0.12	1.07	+0.05	24.36	+0.08	1.17	+0.08	8,224	24,316
WK-93	-304	-316	23.83	25.04	+0.33	1.65	+0.08/-0.12	0.79	+0.05	24.77	+0.08	0.91	+0.08	5,601	18,670
WKT-93	-304	-316	23.83	25.32	+0.33	1.91	+0.10	1.07	+0.05	25.12	+0.08	1.17	+0.08	7,646	25,294
DNK-24	-304	-316	24.00	25.45	+0.38	2.16	+0.10	1.14	+0.05	25.20	+0.21	1.30	+0.14	7,018	24,891
EK-24	-304	-316	24.00	25.73	+0.35	2.14	+0.10	1.07	+0.05	25.47	+0.08	1.20	+0.08	8,650	26,870
WKM-93	-304	-316	23.83	25.73	+0.33	2.16	+0.08/-0.12	1.07	+0.05	25.40	+0.08	1.17	+0.08	9,157	25,294
WK-96	-304	-316	24.59	26.04	+0.33	1.91	+0.08/-0.12	0.94	+0.05	25.78	+0.08	1.07	+0.08	6,401	23,027
WK-98	-304	-316	25.07	26.44	+0.33	1.91	+0.08/-0.12	0.94	+0.05	26.16	+0.08	1.07	+0.08	6,535	23,471
DNK-25	-304	-316	25.00	26.45	+0.38	2.16	+0.10	1.14	+0.05	26.20	+0.21	1.30	+0.14	7,310	25,928
WK-100	-304	-316	25.40	26.77	+0.33	1.91	+0.08/-0.12	0.94	+0.05	26.49	+0.08	1.07	+0.08	6,579	23,782
WKT-100	-304	-316	25.40	27.00	+0.33	1.91	+0.10	1.07	+0.05	26.80	+0.08	1.17	+0.08	8,802	26,983
EK-25	-304	-316	25.00	27.03	+0.35	2.14	+0.10	1.07	+0.05	26.67	+0.08	1.20	+0.08	10,230	27,990
WK-102	-304	-316	25.98	27.38	+0.33	1.91	+0.08/-0.12	0.94	+0.05	27.08	+0.08	1.07	+0.08	6,757	24,316
WKM-100	-304	-316	25.40	27.43	+0.33	2.16	+0.08/-0.12	1.07	+0.05	27.08	+0.08	1.17	+0.08	10,358	26,983
DNK-26	-304	-316	26.00	27.48	+0.38	2.16	+0.10	1.14	+0.05	27.20	+0.21	1.30	+0.14	7,603	26,965
WK-103	-304	-316	26.19	27.53	+0.33	1.91	+0.08/-0.12	0.94	+0.05	27.28	+0.08	1.07	+0.08	6,801	24,493
WKT-102	-304	-316	25.98	27.61	+0.33	1.91	+0.10	1.07	+0.05	27.41	+0.10	1.17	+0.10	9,024	27,605
EK-26	-304	-316	26.00	28.07	+0.35	2.14	+0.10	1.07	+0.05	27.77	+0.08	1.20	+0.08	11,270	29,110
WKM-102	-304	-316	25.98	28.07	+0.33	2.16	+0.08/-0.12	1.07	+0.05	27.71	+0.08	1.17	+0.08	10,935	27,605
WK-106	-304	-316	26.97	28.37	+0.38	1.91	+0.08/-0.12	0.94	+0.05	28.04	+0.10	1.07	+0.08	7,024	25,249
WKT-106	-304	-316	26.97	28.68	+0.38	1.98	+0.10	1.27	+0.05	28.45	+0.10	1.42	+0.10	9,691	31,161
DNK-27	-304	-316	27.00	28.68	+0.38	2.41	+0.10	1.14	+0.05	28.40	+0.21	1.30	+0.14	9,211	28,002
WKM-106	-304	-316	26.97	28.91	+0.33	2.62	+0.08/-0.12	1.27	+0.05	28.70	+0.10	1.42	+0.10	11,335	31,161
EK-27	-304	-316	27.00	29.11	+0.35	2.59	+0.10	1.27	+0.05	28.87	+0.08	1.40	+0.10	12,360	31,170
WK-109	-304	-316	27.76	29.13	+0.38	1.91	+0.08/-0.12	0.94	+0.05	28.83	+0.10	1.07	+0.08	7,201	25,960

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

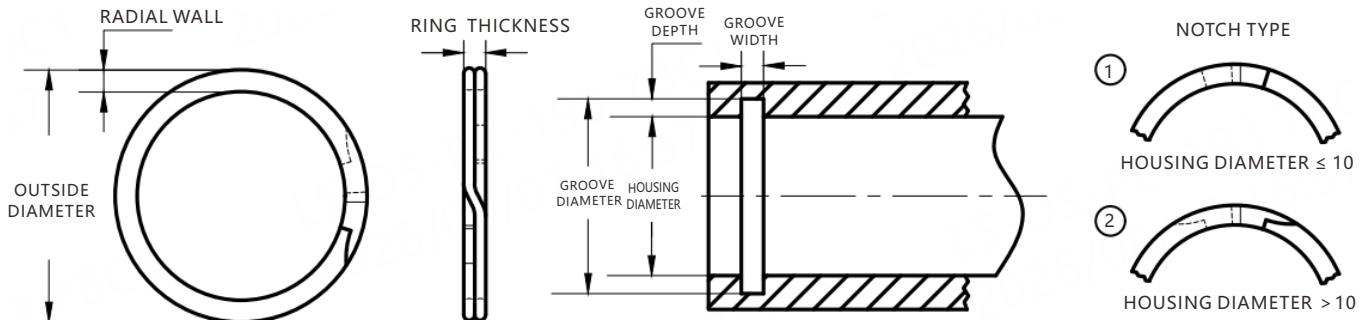
2-Turn Spiral Retaining Rings For Bore



Lispring Part Number ¹			Housing Diameter (mm)	Ring						Groove				Thrust Capacity	
Carbon Steel	304 SS	316 SS		Outside Diameter (mm)	Radial Wall (mm)	Thickness (mm)	Diameter (mm)	Width (mm)	Groove Yield (N)	Ring Shear (N)					
	Add Suffix	Add Suffix													
DNK-28	-304	-316	28.00	29.69	+0.38	2.41	±0.10	1.14	±0.05	29.40	+0.21	1.30	+0.14	9,552	29,039
WK-112	-304	-316	28.58	29.97	+0.38	1.91	+0.08/-0.12	0.94	±0.05	29.64	±0.10	1.07	+0.08	7,424	26,761
EK-28	-304	-316	28.00	30.10	+0.35	2.59	±0.10	1.27	±0.05	29.87	±0.08	1.40	+0.10	12,820	32,330
WKT-112	-304	-316	28.58	30.35	+0.38	1.98	±0.10	1.27	±0.05	30.10	±0.10	1.42	+0.10	10,624	32,984
WKM-112	-304	-316	28.58	30.61	+0.33	2.62	+0.08/-0.12	1.27	±0.05	30.40	±0.10	1.42	+0.10	12,714	32,984
DNK-29	-304	-316	29.00	30.71	+0.38	2.41	±0.10	1.14	±0.05	30.40	±0.25	1.30	+0.14	9,893	30,076
WK-115	-304	-316	29.36	30.73	+0.38	1.91	+0.08/-0.12	0.94	±0.05	30.43	±0.10	1.07	+0.08	7,646	27,472
EK-29	-304	-316	29.00	31.21	+0.35	2.59	±0.10	1.27	±0.05	30.95	±0.10	1.40	+0.10	13,840	33,480
DNK-30	-304	-316	30.00	31.71	+0.38	2.41	±0.10	1.14	±0.05	31.40	±0.25	1.30	+0.14	10,235	31,113
WK-118	-304	-316	30.18	31.72	+0.38	2.16	+0.08/-0.12	1.09	±0.05	31.39	±0.10	1.22	+0.10	8,979	32,806
WKT-118	-304	-316	30.18	32.00	+0.38	2.24	±0.10	1.27	±0.05	31.75	±0.10	1.42	+0.10	11,558	34,851
EK-30	-304	-316	30.00	32.28	+0.35	2.59	±0.10	1.27	±0.05	32.00	±0.10	1.40	+0.10	14,610	34,640
WKM-118	-304	-316	30.18	32.28	+0.33	2.62	+0.08/-0.12	1.27	±0.05	32.05	±0.10	1.42	+0.10	13,825	34,851
WK-121	-304	-316	30.94	32.46	+0.38	2.16	+0.08/-0.12	1.09	±0.05	32.16	±0.10	1.22	+0.10	9,202	33,651
DNK-31	-304	-316	31.00	33.02	+0.38	2.41	±0.10	1.14	±0.05	32.70	±0.25	1.30	+0.14	12,842	32,150
WK-125	-304	-316	31.75	33.32	+0.38	2.16	+0.08/-0.12	1.09	±0.05	32.97	±0.10	1.22	+0.10	9,424	34,540
EK-31	-304	-316	31.00	33.32	+0.35	2.59	±0.10	1.27	±0.05	33.05	±0.10	1.40	+0.10	15,550	35,790
WKT-125	-304	-316	31.75	33.78	+0.38	2.36	±0.10	1.27	±0.05	33.53	±0.10	1.42	+0.10	13,736	36,674
WKM-125	-304	-316	31.75	34.01	+0.33	2.62	+0.08/-0.12	1.27	±0.05	33.78	±0.10	1.42	+0.10	15,692	36,674
DNK-32	-304	-316	32.00	34.04	+0.38	2.41	±0.10	1.14	±0.05	33.70	±0.25	1.30	+0.14	13,256	33,187
WK-128	-304	-316	32.54	34.09	+0.38	2.16	+0.08/-0.12	1.09	±0.05	33.76	±0.10	1.22	+0.10	9,646	35,384
EK-32	-304	-316	32.00	34.23	+0.35	2.59	±0.10	1.27	±0.05	34.00	±0.10	1.40	+0.10	15,880	36,950
WK-131	-304	-316	33.32	34.90	+0.38	2.16	+0.08/-0.12	1.09	±0.05	34.54	±0.10	1.22	+0.10	9,913	36,229
DNK-33	-304	-316	33.00	35.05	+0.38	2.41	±0.10	1.14	±0.05	34.70	±0.10	1.30	+0.10	13,670	34,224
WKT-131	-304	-316	33.32	35.43	+0.38	2.36	±0.10	1.27	±0.05	35.18	±0.10	1.42	+0.10	15,247	38,496
WKM-131	-304	-316	33.32	35.71	+0.33	3.00	+0.08/-0.12	1.27	±0.05	35.46	±0.10	1.42	+0.10	17,337	38,496
WK-134	-304	-316	34.11	35.76	+0.38	2.16	+0.08/-0.12	1.09	±0.05	35.43	±0.10	1.22	+0.10	10,980	37,118
DNK-34	-304	-316	34.00	36.07	+0.38	3.25	±0.10	1.44	±0.05	35.70	±0.25	1.60	+0.14	14,085	44,541
EK-34	-304	-316	34.00	36.46	+0.35	2.97	±0.10	1.27	±0.05	36.20	±0.10	1.40	+0.10	18,210	39,260
WK-137	-304	-316	34.93	36.63	+0.38	2.41	+0.08/-0.12	1.09	±0.05	36.25	±0.10	1.22	+0.10	11,247	37,963
WKT-137	-304	-316	34.92	37.11	+0.38	2.49	±0.10	1.27	±0.05	36.83	±0.10	1.42	+0.10	16,403	40,319
WKM-137	-304	-316	34.93	37.36	+0.33	3.00	+0.08/-0.12	1.27	±0.05	37.11	±0.10	1.42	+0.10	18,581	40,319
DNK-35	-304	-316	35.00	37.38	+0.38	3.25	±0.10	1.44	±0.05	37.00	±0.25	1.60	+0.14	17,058	45,851
WK-140	-304	-316	35.71	37.39	+0.38	2.41	+0.08/-0.12	1.09	±0.05	37.03	±0.10	1.22	+0.10	11,469	38,852
EK-35	-304	-316	35.00	37.55	+0.35	2.97	±0.10	1.27	±0.05	37.30	±0.10	1.40	+0.10	19,600	40,410
WK-143	-304	-316	36.50	38.20	+0.38	2.41	+0.08/-0.12	1.09	±0.05	37.82	±0.10	1.22	+0.10	11,736	39,696
DNK-36	-304	-316	36.00	38.39	+0.38	3.25	±0.10	1.44	±0.05	38.00	±0.25	1.60	+0.14	17,545	47,161
WK-145	-304	-316	36.98	38.68	+0.38	2.41	+0.08/-0.12	1.09	±0.05	38.30	±0.10	1.22	+0.10	11,913	40,230
EK-36	-304	-316	36.00	38.68	+0.35	2.97	±0.10	1.27	±0.05	38.40	±0.10	1.40	+0.10	21,040	41,560
WKT-143	-304	-316	36.53	38.76	+0.38	2.62	±0.10	1.27	±0.05	38.48	±0.10	1.42	+0.10	17,603	42,186
WK-146	-304	-316	37.29	38.99	+0.38	2.41	+0.08/-0.12	1.09	±0.05	38.61	±0.10	1.22	+0.10	12,002	40,541
WKM-143	-304	-316	36.55	39.09	+0.33	3.00	+0.08/-0.12	1.27	±0.05	38.81	±0.10	1.42	+0.10	20,359	42,186
WKT-145	-304	-316	36.98	39.27	+0.38	2.74	±0.10	1.27	±0.05	38.99	±0.10	1.42	+0.10	18,315	42,719
DNK-37	-304	-316	37.00	39.40	+0.38	3.25	±0.10	1.44	±0.05	39.00	±0.25	1.60	+0.14	18,032	48,471
EK-37	-304	-316	37.00	39.60	+0.35	2.97	±0.10	1.27	±0.05	39.40	±0.10	1.40	+0.10	21,620	42,720
WKM-145	-304	-316	36.98	39.60	+0.33	3.00	+0.08/-0.12	1.27	±0.05	39.32	±0.10	1.42	+0.10	21,026	42,719
WK-150	-304	-316	38.10	39.80	+0.38	2.41	+0.08/-0.12	1.09	±0.05	39.42	±0.10	1.22	+0.10	12,269	41,430
WKT-150	-304	-316	38.10	40.41	+0.38	2.74	±0.10	1.27	±0.05	40.13	±0.10	1.42	+0.10	18,848	44,008

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

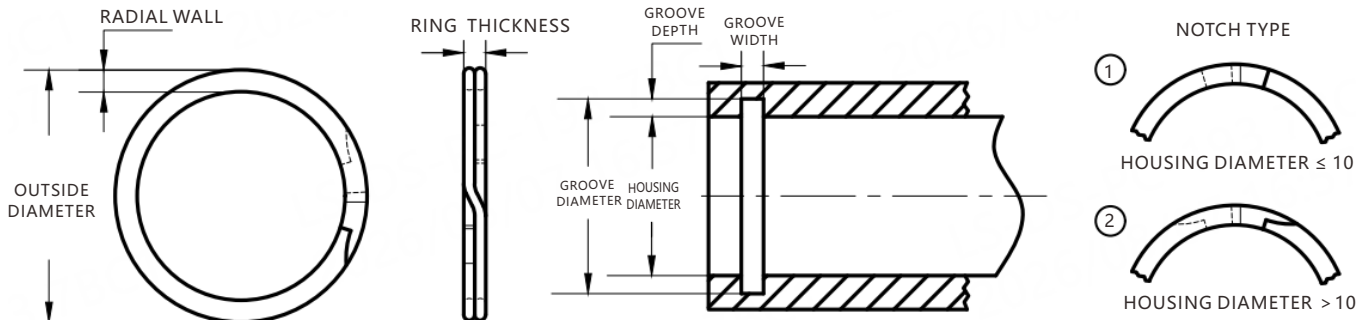
2-Turn Spiral Retaining Rings For Bore



Lispring Part Number ¹			Housing Diameter (mm)	Ring					Groove				Thrust Capacity		
Carbon Steel	304 SS	316 SS		Outside Diameter (mm)	Radial Wall (mm)		Thickness (mm)	Diameter (mm)	Width (mm)		Groove Yield (N)	Ring Shear (N)			
	Add Suffix	Add Suffix													
DNK-38	-304	-316	38.00	40.41	+0.38	3.25	±0.10	1.44	±0.05	40.00	+0.25	1.60	+0.14	18,520	49,781
EK-38	-304	-316	38.00	40.77	+0.35	2.97	±0.10	1.27	±0.05	40.50	±0.10	1.40	+0.10	23,130	43,870
WKM-150	-304	-316	38.10	40.77	+0.33	3.00	+0.08/-0.12	1.27	±0.05	40.49	±0.10	1.42	+0.10	22,137	44,008
WK-156	-304	-316	39.67	41.50	+0.50	2.74	+0.08/-0.12	1.24	±0.08	41.07	±0.13	1.42	+0.10	13,736	44,897
WK-157	-304	-316	39.98	41.88	+0.50	2.74	+0.08/-0.12	1.24	±0.08	41.48	±0.13	1.42	+0.10	14,847	45,253
WKT-156	-304	-316	39.67	42.14	+0.50	2.87	±0.10	1.57	±0.08	41.83	±0.13	1.73	+0.10	21,115	56,811
WKM-156	-304	-316	39.67	42.55	+0.50	3.25	+0.08/-0.12	1.57	±0.08	42.11	±0.13	1.73	+0.10	23,560	56,811
EK-40	-304	-316	40.00	42.91	+0.51	3.23	±0.10	1.57	±0.08	42.50	±0.10	1.75	+0.10	24,350	57,090
DNK-40	-304	-316	40.00	42.93	+0.51	4.01	±0.10	1.69	±0.05	42.50	+0.25	1.85	+0.14	24,368	61,498
WK-162	-304	-316	41.28	43.21	+0.50	2.74	+0.08/-0.12	1.24	±0.08	42.77	±0.13	1.42	+0.10	14,892	46,720
WKT-162	-304	-316	41.28	43.87	+0.50	2.87	±0.10	1.57	±0.08	43.56	±0.13	1.73	+0.10	22,982	59,078
WK-165	-304	-316	41.99	43.94	+0.50	2.74	+0.08/-0.12	1.24	±0.08	43.48	±0.13	1.42	+0.10	15,603	47,520
DNK-41	-304	-316	41.00	43.94	+0.51	4.01	±0.10	1.69	±0.05	43.50	+0.25	1.85	+0.14	24,977	63,036
WKM-162	-304	-316	41.28	44.25	+0.50	3.25	+0.08/-0.12	1.57	±0.08	43.82	±0.13	1.73	+0.10	25,516	59,078
WKT-165	-304	-316	41.99	44.63	+0.50	3.00	±0.10	1.57	±0.08	44.32	±0.13	1.73	+0.10	23,916	60,100
WK-168	-304	-316	42.85	44.91	+0.50	3.00	+0.08/-0.12	1.24	±0.08	44.45	±0.13	1.42	+0.10	16,448	48,498
DNK-42	-304	-316	42.00	44.96	+0.51	4.01	±0.10	1.69	±0.05	44.50	+0.25	1.85	+0.14	25,586	64,573
EK-42	-304	-316	42.00	45.01	+0.51	3.23	±0.10	1.57	±0.08	44.60	±0.10	1.75	+0.10	26,590	59,950
WKM-165	-304	-316	41.99	45.01	+0.50	3.25	+0.08/-0.12	1.57	±0.08	44.58	±0.13	1.73	+0.10	26,494	60,100
WKT-168	-304	-316	42.88	45.54	+0.50	3.00	±0.10	1.57	±0.08	45.21	±0.13	1.73	+0.10	24,405	61,389
WKM-168	-304	-316	42.88	45.97	+0.50	3.25	+0.08/-0.12	1.57	±0.08	45.52	±0.13	1.73	+0.10	27,605	61,389
WK-175	-304	-316	44.45	46.58	+0.50	3.00	+0.08/-0.12	1.24	±0.08	46.05	±0.13	1.42	+0.10	17,070	50,276
WKT-175	-304	-316	44.45	47.19	+0.50	3.00	±0.10	1.57	±0.08	46.86	±0.13	1.73	+0.10	26,405	63,656
WKM-175	-304	-316	44.45	47.65	+0.50	3.25	+0.08/-0.12	1.57	±0.08	47.19	±0.13	1.73	+0.10	29,694	63,656
DNK-45	-304	-316	45.00	47.98	+0.51	4.01	±0.10	1.69	±0.05	47.50	+0.25	1.85	+0.14	27,414	69,186
WK-181	-304	-316	46.05	48.11	+0.50	3.00	+0.08/-0.12	1.24	±0.08	47.63	±0.13	1.42	+0.10	17,648	52,099
EK-45	-304	-316	45.00	48.13	+0.51	3.23	±0.10	1.57	±0.08	47.70	±0.10	1.75	+0.10	29,590	64,230
WKT-181	-304	-316	46.02	48.84	+0.50	3.12	±0.10	1.57	±0.08	48.51	±0.13	1.73	+0.10	27,916	65,879
WK-185	-304	-316	46.99	49.20	+0.50	3.00	+0.08/-0.12	1.24	±0.08	48.69	±0.13	1.42	+0.10	19,781	53,166
EK-46	-304	-316	46.00	49.28	+0.51	3.23	±0.10	1.57	±0.08	48.80	±0.10	1.75	+0.10	31,370	65,660
WKM-181	-304	-316	46.02	49.28	+0.50	3.25	+0.08/-0.12	1.57	±0.08	48.82	±0.13	1.73	+0.10	31,339	65,879
WK-187	-304	-316	47.63	49.78	+0.50	3.00	+0.08/-0.12	1.24	±0.08	49.33	±0.13	1.42	+0.10	20,048	53,877
WKT-185	-304	-316	46.99	49.86	+0.50	3.12	±0.10	1.57	±0.08	49.50	±0.13	1.73	+0.10	29,072	67,257
DNK-47	-304	-316	47.00	49.99	+0.51	4.01	±0.10	1.69	±0.05	49.50	+0.25	1.85	+0.14	28,633	72,261
EK-47	-304	-316	47.00	50.32	+0.51	3.99	±0.10	1.57	±0.08	49.90	±0.10	1.75	+0.10	33,190	67,080
WKM-185	-304	-316	46.99	50.32	+0.50	4.01	+0.08/-0.12	1.57	±0.08	49.83	±0.13	1.73	+0.10	32,539	67,257
WKT-187	-304	-316	47.63	50.52	+0.50	3.25	±0.10	1.57	±0.08	50.17	±0.13	1.73	+0.10	29,472	68,191
DNK-48	-304	-316	48.00	51.00	+0.51	4.01	±0.10	1.69	±0.05	50.50	+0.30	1.85	+0.14	29,242	73,798
WKM-187	-304	-316	47.63	51.00	+0.50	4.01	+0.08/-0.12	1.57	±0.08	50.52	±0.13	1.73	+0.10	33,606	68,191
WK-193	-304	-316	49.23	51.44	+0.50	3.00	+0.08/-0.12	1.24	±0.08	50.93	±0.13	1.42	+0.10	20,715	55,699
EK-48	-304	-316	48.00	51.46	+0.51	3.99	±0.10	1.57	±0.08	51.00	±0.10	1.75	+0.10	35,070	68,510
WKT-193	-304	-316	49.23	52.17	+0.50	3.25	±0.10	1.57	±0.08	51.82	±0.13	1.73	+0.10	31,073	70,458
WKM-193	-304	-316	49.23	52.71	+0.50	4.01	+0.08/-0.12	1.57	±0.08	52.22	±0.13	1.73	+0.10	35,918	70,458
WK-200	-304	-316	50.80	53.11	+0.50	3.25	+0.08/-0.12	1.24	±0.08	52.60	±0.13	1.42	+0.10	22,004	57,477
DNK-50	-304	-316	50.00	53.54	+0.63	5.08	±0.13	1.93	±0.08	53.00	+0.30	2.15	+0.14	36,552	87,790
EK-50	-304	-316	50.00	53.66	+0.51	3.99	±0.10	1.57	±0.08	53.20	±0.10	1.75	+0.10	38,960	71,370
WKT-200	-304	-316	50.80	53.98	+0.50	3.51	±0.10	1.57	±0.08	53.59	±0.13	1.73	+0.10	34,584	72,725
EK-52	-304	-316	52.00	54.30	+0.51	3.23	±0.10	1.25	±0.08	53.79	±0.13	1.42	+0.10	22,790	59,090

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

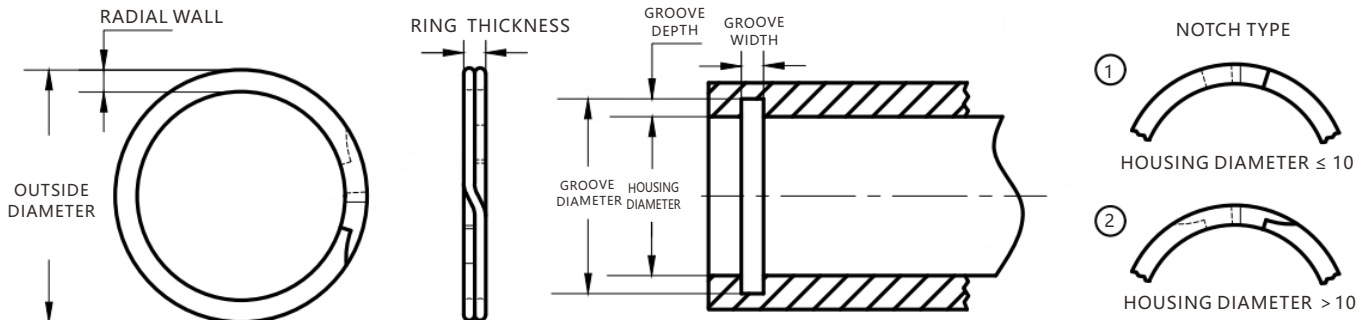
2-Turn Spiral Retaining Rings For Bore



Lispring Part Number ¹			Housing Diameter (mm)	Ring					Groove				Thrust Capacity		
Carbon Steel	304 SS	316 SS		Outside Diameter (mm)		Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)
	Add Suffix	Add Suffix													
WK-204	-304	-316	51.99	54.31	+0.50	3.25	+0.08/-0.12	1.24	±0.08	53.80	±0.13	1.42	+0.10	22,493	58,856
WKM-200	-304	-316	50.80	54.41	+0.50	4.01	+0.08/-0.12	1.57	±0.08	53.90	±0.13	1.73	+0.10	38,318	72,725
DNK-51	-304	-316	51.00	54.54	+0.63	5.08	±0.13	1.93	±0.08	54.00	+0.30	2.15	+0.14	37,283	89,546
WK-206	-304	-316	52.37	54.71	+0.63	3.25	+0.08/-0.12	1.24	±0.08	54.15	±0.15	1.42	+0.10	22,671	59,256
EK-53	-304	-316	53.00	55.32	+0.51	3.23	±0.10	1.25	±0.08	54.79	±0.13	1.42	+0.10	23,230	60,230
DNK-52	-304	-316	52.00	55.55	+0.63	5.08	±0.13	1.93	±0.08	55.00	+0.30	2.15	+0.14	38,014	91,302
WKT-206	-304	-316	52.37	55.63	+0.63	3.58	±0.10	1.98	±0.08	55.25	±0.15	2.18	+0.13	36,940	94,329
WKM-206	-304	-316	52.37	55.91	+0.63	4.27	+0.1/-0.15	1.98	±0.08	55.52	±0.15	2.18	+0.13	40,185	94,329
WK-212	-304	-316	53.98	56.31	+0.63	3.25	+0.08/-0.12	1.24	±0.08	55.75	±0.15	1.42	+0.10	23,382	61,078
WKT-212	-304	-316	53.98	57.28	+0.63	3.58	±0.10	1.98	±0.08	56.90	±0.15	2.18	+0.13	38,718	97,218
EK-55	-304	-316	55.00	57.38	+0.63	3.48	±0.10	1.25	±0.08	56.85	±0.15	1.42	+0.10	24,910	62,500
WK-216	-304	-316	54.99	57.40	+0.63	3.51	+0.08/-0.12	1.24	±0.08	56.87	±0.15	1.42	+0.10	25,160	62,234
WKM-212	-304	-316	53.98	57.58	+0.63	4.27	+0.1/-0.15	1.98	±0.08	57.18	±0.15	2.18	+0.13	42,052	97,218
WK-218	-304	-316	55.58	58.01	+0.63	3.51	+0.08/-0.12	1.24	±0.08	57.45	±0.15	1.42	+0.10	25,427	62,901
EK-56	-304	-316	56.00	58.40	+0.63	3.48	±0.10	1.25	±0.08	57.85	±0.15	1.42	+0.10	25,360	63,640
DNK-55	-304	-316	55.00	58.57	+0.63	5.08	±0.13	1.93	±0.08	58.00	+0.30	2.15	+0.14	40,207	96,569
WKT-218	-304	-316	55.58	58.95	+0.63	3.58	±0.10	1.98	±0.08	58.55	±0.15	2.18	+0.13	40,585	100,108
WKM-218	-304	-316	55.58	59.28	+0.63	4.27	+0.1/-0.15	1.98	±0.08	58.88	±0.15	2.18	+0.13	44,675	100,108
DNK-56	-304	-316	56.00	59.59	+0.63	5.08	±0.13	1.93	±0.08	59.00	+0.30	2.15	+0.14	40,938	98,325
WK-225	-304	-316	57.15	59.61	+0.63	3.51	+0.08/-0.12	1.24	±0.08	59.03	±0.15	1.42	+0.10	26,183	64,679
EK-58	-304	-316	58.00	60.43	+0.63	3.48	±0.10	1.25	±0.08	59.85	±0.15	1.42	+0.10	26,270	65,910
WKT-225	-304	-316	57.15	60.60	+0.63	3.58	±0.10	1.98	±0.08	60.20	±0.15	2.18	+0.13	42,408	102,953
DNK-57	-304	-316	57.00	60.60	+0.63	5.08	±0.13	1.93	±0.08	60.00	+0.30	2.15	+0.14	41,669	100,081
WKM-225	-304	-316	57.15	60.93	+0.63	4.27	+0.1/-0.15	1.98	±0.08	60.50	±0.15	2.18	+0.13	46,675	102,953
WK-231	-304	-316	58.72	61.29	+0.63	3.51	+0.08/-0.12	1.24	±0.08	60.71	±0.15	1.42	+0.10	28,316	66,457
EK-59	-304	-316	59.00	61.54	+0.63	3.48	±0.10	1.25	±0.08	60.93	±0.15	1.42	+0.10	27,870	67,050
DNK-58	-304	-316	58.00	61.62	+0.63	5.08	±0.13	1.93	±0.08	61.00	+0.30	2.15	+0.14	42,400	101,836
WKT-231	-304	-316	58.72	62.41	+0.63	4.78	±0.13	1.98	±0.08	61.98	±0.15	2.18	+0.13	46,498	105,798
EK-60	-304	-316	60.00	62.57	+0.63	3.48	±0.10	1.25	±0.08	61.99	±0.15	1.42	+0.10	29,220	68,180
WKM-231	-304	-316	58.72	62.66	+0.63	5.08	+0.1/-0.15	1.98	±0.08	62.23	±0.15	2.18	+0.13	50,143	105,798
WK-237	-304	-316	60.33	62.89	+0.63	3.51	+0.08/-0.12	1.24	±0.08	62.31	±0.15	1.42	+0.10	29,117	68,280
DNK-60	-304	-316	60.00	63.63	+0.63	5.08	±0.13	1.93	±0.08	63.00	+0.30	2.15	+0.14	43,863	105,348
EK-61	-304	-316	61.00	63.65	+0.63	3.74	±0.10	1.25	±0.08	63.09	±0.15	1.42	+0.10	31,190	69,320
WKT-237	-304	-316	60.33	64.06	+0.63	4.78	±0.13	1.98	±0.08	63.63	±0.15	2.18	+0.13	48,498	108,643
WKM-237	-304	-316	60.33	64.39	+0.63	5.08	+0.1/-0.15	1.98	±0.08	63.93	±0.15	2.18	+0.13	52,988	108,643
WK-243	-304	-316	61.90	64.59	+0.63	3.76	+0.08/-0.12	1.24	±0.08	63.98	±0.15	1.42	+0.10	31,384	70,058
WK-244	-304	-316	61.98	64.67	+0.63	3.76	+0.08/-0.12	1.24	±0.08	64.06	±0.15	1.42	+0.10	31,428	70,147
EK-62	-304	-316	62.00	64.70	+0.63	3.74	±0.10	1.25	±0.08	64.09	±0.15	1.42	+0.10	31,700	70,460
DNK-62	-304	-316	62.00	65.66	+0.63	5.08	±0.13	1.93	±0.08	65.00	+0.30	2.15	+0.14	45,325	108,860
EK-63	-304	-316	63.00	65.70	+0.63	3.74	±0.10	1.25	±0.08	65.09	±0.15	1.42	+0.10	32,220	71,590
WKT-244	-304	-316	61.98	65.74	+0.63	4.78	±0.13	1.98	±0.08	65.28	±0.15	2.18	+0.13	49,832	111,621
WKM-244	-304	-316	61.98	66.09	+0.63	5.08	+0.1/-0.15	1.98	±0.08	65.63	±0.15	2.18	+0.13	55,210	111,621
WK-250	-304	-316	63.50	66.19	+0.63	3.76	+0.08/-0.12	1.24	±0.08	65.58	±0.15	1.42	+0.10	32,228	71,836
DNK-63	-304	-316	63.00	66.67	+0.63	5.08	±0.13	1.93	±0.08	66.00	+0.30	2.15	+0.14	46,056	110,615
EK-64	-304	-316	64.00	66.77	+0.63	3.74	±0.10	1.25	±0.08	66.19	±0.15	1.42	+0.10	34,290	72,730
WK-253	-304	-316	64.29	67.08	+0.63	3.76	+0.08/-0.12	1.24	±0.08	66.47	±0.15	1.42	+0.10	34,184	72,725
WKT-250	-304	-316	63.50	67.39	+0.63	4.78	±0.13	1.98	±0.08	66.93	±0.15	2.18	+0.13	53,432	114,377
DNK-64	-304	-316	64.00	67.67	+0.63	5.08	±0.13	1.93	±0.08	67.00	+0.30	2.15	+0.14	46,787	112,371

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

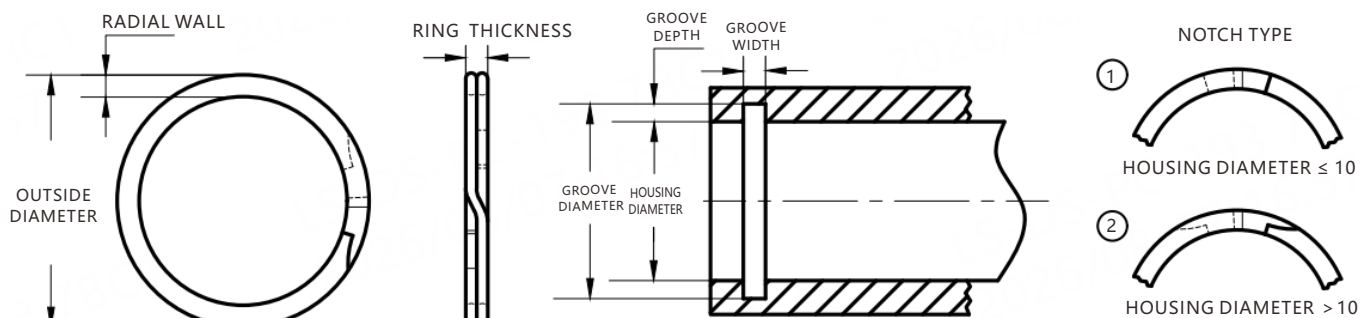
2-Turn Spiral Retaining Rings For Bore



Lispring Part Number ¹			Housing Diameter (mm)	Ring			Groove			Thrust Capacity	
Carbon Steel	304 SS	316 SS		Outside Diameter (mm)	Radial Wall (mm)	Thickness (mm)	Diameter (mm)	Width (mm)		Groove Yield (N)	Ring Shear (N)
	Add Suffix	Add Suffix									
WKM-250	-304	-316	63.50	67.74	+0.63	5.08	67.26	2.18	+0.13	58,144	114,377
EK-65	-304	-316	65.00	67.82	+0.63	3.74	67.19	1.42	+0.10	34,820	73,870
WK-256	-304	-316	65.07	67.89	+0.63	3.76	67.26	1.42	+0.10	34,629	73,614
WKT-253	-304	-316	64.29	68.25	+0.63	4.78	67.77	2.18	+0.13	54,899	115,800
WKM-253	-304	-316	64.29	68.58	+0.63	5.08	68.10	2.18	+0.13	59,656	115,800
DNK-65	-304	-316	65.00	68.67	+0.76	5.08	68.00	2.65	+0.14	47,518	135,725
EK-66	-304	-316	66.00	68.80	+0.63	3.74	68.19	1.42	+0.10	35,360	75,000
WKT-256	-304	-316	65.07	69.09	+0.63	4.78	68.58	2.62	+0.13	55,566	133,092
WKM-256	-304	-316	65.07	69.42	+0.76	5.72	68.94	2.62	+0.13	61,167	133,092
WK-262	-304	-316	66.68	69.49	+0.63	3.76	68.86	1.42	+0.10	35,473	75,436
EK-67	-304	-316	67.00	69.90	+0.63	3.74	69.25	1.42	+0.10	36,870	76,140
DNK-67	-304	-316	67.00	70.67	+0.76	5.08	70.00	2.65	+0.14	48,980	139,901
WKT-262	-304	-316	66.68	70.74	+0.63	4.78	70.23	2.62	+0.13	57,744	136,381
WK-267	-304	-316	68.00	70.84	+0.63	4.01	70.28	1.42	+0.10	37,874	76,948
EK-68	-304	-316	68.00	70.94	+0.63	3.99	70.29	1.42	+0.10	38,090	77,270
WKM-262	-304	-316	66.68	71.15	+0.76	5.72	70.64	2.62	+0.13	64,323	136,381
WK-268	-304	-316	68.28	71.20	+0.63	4.01	70.56	1.42	+0.10	38,007	77,259
DNK-68	-304	-316	68.00	71.67	+0.76	5.08	71.00	2.65	+0.14	49,711	141,989
EK-69	-304	-316	69.00	71.94	+0.63	3.99	71.29	1.42	+0.10	38,650	78,410
WKT-268	-304	-316	68.28	72.52	+0.63	4.78	71.98	2.62	+0.13	61,656	139,626
WK-275	-304	-316	69.85	72.77	+0.63	4.01	72.16	1.42	+0.10	38,896	79,037
WKM-268	-304	-316	68.28	72.85	+0.76	5.72	72.34	2.62	+0.13	67,568	139,626
EK-70	-304	-316	70.00	72.94	+0.63	3.99	72.29	1.42	+0.10	39,210	79,550
DNK-70	-304	-316	70.00	73.67	+0.76	5.08	73.00	2.65	+0.14	51,173	146,165
EK-71	-304	-316	71.00	73.99	+0.63	3.99	73.29	1.42	+0.10	39,770	80,680
WKT-275	-304	-316	69.85	74.19	+0.63	4.78	73.66	2.62	+0.13	64,812	142,871
WK-281	-304	-316	71.45	74.40	+0.63	4.01	73.74	1.42	+0.10	39,785	80,860
WKM-275	-304	-316	69.85	74.52	+0.76	5.72	74.02	2.62	+0.13	70,858	142,871
WK-283	-304	-316	71.98	75.03	+0.63	4.27	74.37	1.42	+0.10	42,319	81,438
EK-72	-304	-316	72.00	75.04	+0.63	4.25	74.39	1.42	+0.10	40,910	81,510
DNK-72	-304	-316	72.00	75.67	+0.76	5.08	75.00	2.65	+0.14	52,635	150,341
WKT-281	-304	-316	71.45	75.87	+0.63	4.78	75.31	2.62	+0.13	67,168	146,161
WK-287	-304	-316	73.03	76.07	+0.63	4.27	75.41	1.42	+0.10	42,452	82,638
WKM-281	-304	-316	71.45	76.23	+0.76	5.72	75.69	2.62	+0.13	74,236	146,161
WKT-283	-304	-316	71.98	76.43	+0.63	4.78	75.87	2.62	+0.13	68,591	147,228
WKM-283	-304	-316	71.98	76.89	+0.76	5.72	76.35	2.62	+0.13	76,592	147,228
WKT-287	-304	-316	73.03	77.55	+0.63	4.78	76.96	2.62	+0.13	70,458	149,361
WK-293	-304	-316	74.60	77.67	+0.63	4.27	76.99	1.42	+0.10	43,386	84,416
WKM-287	-304	-316	73.03	78.03	+0.76	5.72	77.50	2.62	+0.13	79,482	149,361
WK-295	-304	-316	74.98	78.05	+0.63	4.27	77.37	1.42	+0.10	43,608	84,860
EK-75	-304	-316	75.00	78.07	+0.63	4.25	77.39	1.42	+0.10	43,830	85,230
DNK-75	-304	-316	75.00	78.68	+0.76	5.08	78.00	2.65	+0.14	54,828	156,605
WK-300	-304	-316	76.20	79.30	+0.63	4.27	78.64	1.73	+0.13	45,253	107,354
DNK-76	-304	-316	76.00	79.68	+0.76	5.08	79.00	2.65	+0.14	55,559	158,694
WK-306	-304	-316	77.77	80.92	+0.76	4.27	80.21	1.73	+0.13	46,186	109,576
WKT-300	-304	-316	76.20	80.98	+0.63	4.78	80.39	2.62	+0.13	78,237	155,852
EK-78	-304	-316	78.00	81.21	+0.76	4.25	80.45	1.73	+0.13	46,730	109,910
WKM-300	-304	-316	76.20	81.38	+0.76	5.72	80.82	2.62	+0.13	81,349	155,852

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

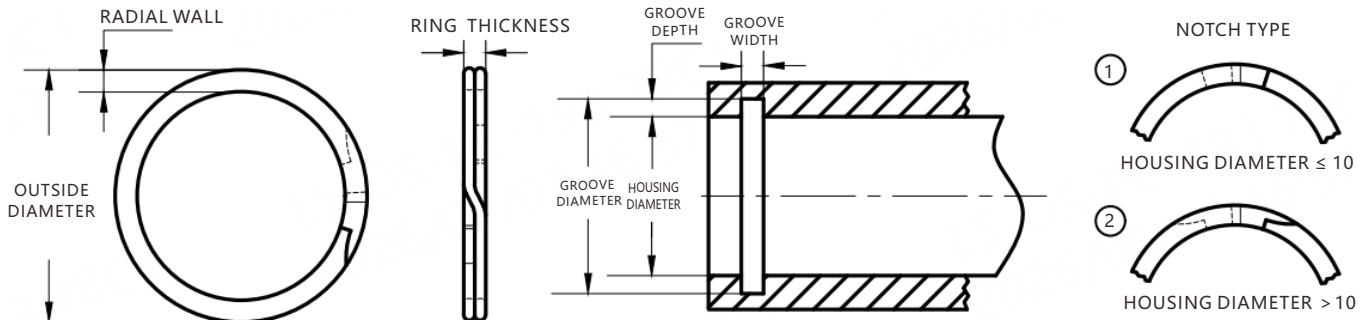
2-Turn Spiral Retaining Rings For Bore



Lispring Part Number ¹			Housing Diameter (mm)	Ring						Groove				Thrust Capacity	
Carbon Steel	304 SS	316 SS		Outside Diameter (mm)	Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)	
	Add Suffix	Add Suffix													
DNK-78	-304	-316	78.00	81.69	+0.76	5.08	±0.13	2.41	±0.08	81.00	+0.35	2.65	+0.14	57,021	162,870
WK-312	-304	-316	79.38	82.58	+0.76	4.52	±0.13	1.55	±0.08	81.86	±0.15	1.73	+0.13	47,120	111,799
WKT-306	-304	-316	77.77	82.63	+0.76	6.35	±0.13	2.82	±0.08	82.04	±0.15	3.05	+0.13	80,815	189,858
WKM-306	-304	-316	77.77	83.08	+0.76	7.14	±0.13	2.82	±0.08	82.50	±0.15	3.05	+0.13	89,483	189,858
WK-314	-304	-316	79.98	83.21	+0.76	4.52	±0.13	1.55	±0.08	82.47	±0.15	1.73	+0.13	47,476	112,688
EK-80	-304	-316	80.00	83.22	+0.76	4.50	±0.13	1.55	±0.08	82.49	±0.15	1.73	+0.13	48,700	112,730
WK-318	-304	-316	80.95	84.10	+0.76	4.52	±0.13	1.55	±0.08	83.39	±0.15	1.73	+0.13	48,053	114,021
DNK-80	-304	-316	80.00	84.19	+0.76	6.05	±0.13	2.41	±0.08	83.50	+0.35	2.65	+0.14	68,231	167,046
WKT-312	-304	-316	79.38	84.28	+0.76	6.35	±0.13	2.82	±0.08	83.69	±0.15	3.05	+0.13	83,482	193,770
WKM-312	-304	-316	79.38	84.79	+0.88	7.14	±0.13	2.82	±0.08	84.20	±0.15	3.05	+0.13	93,306	193,770
WKT-315	-304	-316	80.16	85.19	+0.76	6.35	±0.13	2.82	±0.08	84.53	±0.15	3.05	+0.13	85,305	195,770
EK-82	-304	-316	82.00	85.28	+0.76	4.50	±0.13	1.55	±0.08	84.55	±0.15	1.73	+0.13	51,120	115,550
WKM-315	-304	-316	80.19	85.62	+0.88	7.14	±0.13	2.82	±0.08	85.04	±0.15	3.05	+0.13	95,218	195,770
WK-325	-304	-316	82.55	85.83	+0.76	4.52	±0.13	1.55	±0.08	85.09	±0.15	1.73	+0.13	51,076	116,289
DNK-82	-304	-316	82.00	86.20	+0.76	6.05	±0.13	2.41	±0.08	85.50	+0.35	2.65	+0.14	69,936	171,222
WK-331	-304	-316	84.12	87.53	+0.76	4.78	±0.13	1.55	±0.08	86.77	±0.15	1.73	+0.13	54,099	118,511
WKT-325	-304	-316	82.55	87.63	+0.76	6.35	±0.13	2.82	±0.08	87.02	±0.15	3.05	+0.13	89,884	201,505
WKM-325	-304	-316	82.55	88.14	+0.88	7.14	±0.13	2.82	±0.08	87.53	±0.15	3.05	+0.13	100,063	201,505
WK-334	-304	-316	84.99	88.37	+0.76	4.78	±0.13	1.55	±0.08	87.63	±0.15	1.73	+0.13	54,677	119,711
EK-85	-304	-316	85.00	88.38	+0.76	4.75	±0.13	1.55	±0.08	87.65	±0.15	1.73	+0.13	55,060	119,780
WK-337	-304	-316	85.73	89.13	+0.76	4.78	±0.13	1.55	±0.08	88.37	±0.15	1.73	+0.13	55,166	120,778
DNK-85	-304	-316	85.00	89.20	+0.88	6.05	±0.13	2.91	±0.08	88.50	+0.35	3.15	+0.18	72,495	214,309
WKT-334	-304	-316	84.99	90.17	+0.76	6.35	±0.13	2.82	±0.08	89.54	±0.15	3.05	+0.13	94,640	207,461
WKM-334	-304	-316	84.99	90.70	+0.88	7.14	±0.13	2.82	±0.08	90.07	±0.15	3.05	+0.13	105,131	207,461
WK-343	-304	-316	87.30	90.78	+0.76	4.78	±0.13	1.55	±0.08	89.99	±0.15	1.73	+0.13	57,255	122,956
EK-88	-304	-316	88.00	91.45	+0.76	4.75	±0.13	1.55	±0.08	90.69	±0.15	1.73	+0.13	57,860	124,000
DNK-88	-304	-316	88.00	92.21	+0.88	6.05	±0.13	2.91	±0.08	91.50	+0.35	3.15	+0.18	75,054	221,873
WK-350	-304	-316	88.90	92.35	+0.76	4.78	±0.13	1.55	±0.08	91.59	±0.15	1.73	+0.13	58,278	125,224
WKT-346	-304	-316	87.99	93.35	+0.76	6.35	±0.13	2.82	±0.08	92.71	±0.15	3.05	+0.13	101,219	214,796
WK-354	-304	-316	89.99	93.57	+0.76	5.03	±0.13	1.55	±0.08	92.79	±0.15	1.73	+0.13	61,212	126,779
EK-90	-304	-316	90.00	93.58	+0.76	5.01	±0.13	1.55	±0.08	92.79	±0.15	1.73	+0.13	61,370	126,820
WKM-347	-304	-316	87.99	94.01	+0.88	7.14	±0.13	2.82	±0.08	93.35	±0.15	3.05	+0.13	114,288	214,796
WK-356	-304	-316	90.47	94.06	+0.76	5.03	±0.13	1.55	±0.08	93.27	±0.15	1.73	+0.13	61,567	127,446
DNK-90	-304	-316	90.00	94.21	+0.88	6.05	±0.13	2.91	±0.08	93.50	+0.35	3.15	+0.18	76,759	226,915
WKT-350	-304	-316	88.90	94.39	+0.76	6.35	±0.13	2.82	±0.08	93.73	±0.15	3.05	+0.13	104,464	217,019
WKM-350	-304	-316	88.90	94.89	+0.88	7.14	±0.13	2.82	±0.08	94.23	±0.15	3.05	+0.13	115,488	217,019
WKT-354	-304	-316	89.99	95.53	+0.76	6.35	±0.13	2.82	±0.08	94.87	±0.15	3.05	+0.13	106,865	219,686
EK-92	-304	-316	92.00	95.66	+0.76	5.01	±0.13	1.55	±0.08	94.85	±0.15	1.73	+0.13	64,070	129,640
WK-362	-304	-316	92.08	95.73	+0.76	5.03	±0.13	1.55	±0.08	94.92	±0.15	1.73	+0.13	63,790	129,713
WKM-354	-304	-316	89.99	96.04	+0.88	7.14	±0.13	2.82	±0.08	95.38	±0.15	3.05	+0.13	118,022	219,686
WKT-356	-304	-316	90.47	96.09	+0.76	6.35	±0.13	2.82	±0.08	95.40	±0.15	3.05	+0.13	108,554	220,886
DNK-92	-304	-316	92.00	96.22	+0.88	6.05	±0.13	2.91	±0.08	95.50	+0.35	3.15	+0.18	78,465	231,958
WKM-356	-304	-316	90.47	96.57	+0.88	7.14	±0.13	2.82	±0.08	95.91	±0.15	3.05	+0.13	119,756	220,886
WK-368	-304	-316	93.65	97.33	+0.76	5.03	±0.13	1.55	±0.08	96.49	±0.15	1.73	+0.13	64,901	131,936
WKT-362	-304	-316	92.08	97.76	+0.76	6.35	±0.13	2.82	±0.08	97.08	±0.15	3.05	+0.13	112,777	224,753
WKM-362	-304	-316	92.08	98.25	+0.88	7.14	±0.13	2.82	±0.08	97.56	±0.15	3.05	+0.13	123,001	224,753
WK-374	-304	-316	95.00	98.68	+0.76	5.03	±0.13	1.55	±0.08	97.84	±0.15	1.73	+0.13	65,790	133,803
EK-95	-304	-316	95.00	98.69	+0.76	5.01	±0.13	1.55	±0.08	97.85	±0.15	1.73	+0.13	66,160	133,870

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

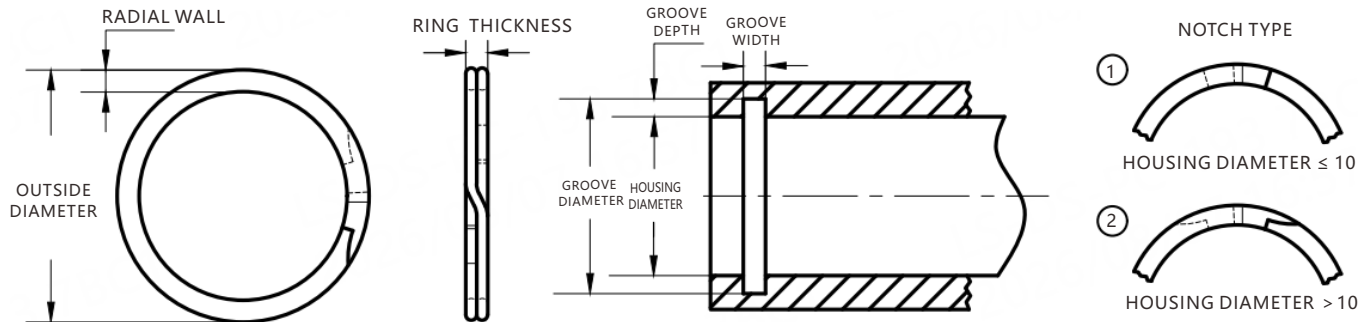
2-Turn Spiral Retaining Rings For Bore



Lispring Part Number ¹			Housing Diameter (mm)	Ring					Groove				Thrust Capacity		
Carbon Steel	304 SS	316 SS		Outside Diameter (mm)		Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)
	Add Suffix	Add Suffix													
WK-375	-304	-316	95.25	98.91	+0.76	5.03	+0.1/-0.15	1.55	±0.08	98.09	±0.15	1.73	+0.13	65,968	134,159
DNK-95	-304	-316	95.00	99.24	+0.89	6.05	±0.13	2.91	±0.08	98.50	±0.35	3.15	+0.18	81,024	239,522
WK-381	-304	-316	96.82	100.66	+0.76	5.28	+0.1/-0.15	1.55	±0.08	99.82	±0.15	1.73	+0.13	70,680	136,381
WKT-375	-304	-316	95.25	101.14	+0.76	6.35	±0.13	2.82	±0.08	100.46	±0.15	3.05	+0.13	121,356	232,533
WKM-375	-304	-316	95.25	101.65	+0.88	7.92	+0.1/-0.2	2.82	±0.08	100.94	±0.15	3.05	+0.13	131,980	232,533
EK-98	-304	-316	98.00	101.83	+0.76	5.26	±0.13	1.55	±0.08	100.99	±0.15	1.73	+0.13	71,590	138,090
WK-387	-304	-316	98.43	102.24	+0.76	5.28	+0.1/-0.15	1.55	±0.08	101.42	±0.15	1.73	+0.13	71,836	138,648
DNK-98	-304	-316	98.00	102.26	+0.89	6.05	±0.13	2.91	±0.08	101.50	±0.35	3.15	+0.18	83,583	247,086
EK-100	-304	-316	100.00	103.83	+0.76	5.26	±0.13	1.55	±0.08	102.99	±0.15	1.73	+0.13	73,050	140,910
WK-393	-304	-316	100.03	103.86	+0.76	5.28	+0.1/-0.15	1.55	±0.08	103.02	±0.15	1.73	+0.13	72,991	140,915
DNK-100	-304	-316	100.00	104.29	+0.89	6.05	±0.13	2.91	±0.08	103.50	±0.35	3.15	+0.18	85,288	252,128
WKT-387	-304	-316	98.43	104.52	+0.76	6.35	±0.13	2.82	±0.08	103.81	±0.15	3.05	+0.13	129,046	240,267
WKM-387	-304	-316	98.43	105.05	+0.88	7.92	+0.1/-0.2	2.82	±0.08	104.32	±0.15	3.05	+0.13	141,227	240,267
WK-400	-304	-316	101.60	105.59	+0.76	5.54	+0.1/-0.15	1.55	±0.08	104.75	±0.15	1.73	+0.13	77,926	143,138
EK-102	-304	-316	102.00	106.00	+0.76	5.51	±0.13	1.55	±0.08	105.15	±0.15	1.73	+0.13	78,490	143,730
WKT-393	-304	-316	100.03	106.12	+0.76	6.35	±0.13	2.82	±0.08	105.41	±0.15	3.05	+0.13	131,180	244,179
WKM-393	-304	-316	100.03	106.76	+0.88	7.92	+0.1/-0.2	2.82	±0.08	106.02	±0.15	3.05	+0.13	146,027	244,179
DNK-102	-304	-316	102.00	106.79	+1.30	6.73	±0.13	3.89	±0.10	106.00	±0.54	4.15	+0.18	99,422	343,778
WK-406	-304	-316	103.20	107.24	+0.76	5.54	+0.1/-0.15	1.55	±0.08	106.35	±0.15	1.73	+0.13	79,170	145,361
WKT-400	-304	-316	101.60	107.90	+0.76	6.35	±0.13	2.82	±0.08	107.19	±0.15	3.05	+0.13	138,248	248,047
WKM-400	-304	-316	101.60	108.46	+0.88	7.92	+0.1/-0.2	2.82	±0.08	107.70	±0.15	3.05	+0.13	150,828	248,047
WK-412	-304	-316	104.78	108.81	+0.88	5.54	+0.1/-0.15	1.55	±0.08	107.92	±0.15	1.73	+0.13	80,371	147,583
EK-105	-304	-316	105.00	109.00	+0.90	5.51	±0.13	1.55	±0.08	108.15	±0.15	1.73	+0.13	80,800	147,960
DNK-105	-304	-316	105.00	109.79	+1.30	6.73	±0.13	3.89	±0.10	109.00	±0.54	4.15	+0.18	102,346	353,889
WK-418	-304	-316	106.38	110.41	+0.88	5.54	+0.1/-0.15	1.55	±0.08	109.50	±0.15	1.73	+0.13	81,571	149,850
WKM-412	-304	-316	104.78	110.97	+0.88	7.92	+0.1/-0.2	2.82	±0.08	110.21	±0.15	3.05	+0.13	155,540	255,781
WKT-412	-304	-316	104.78	111.07	+0.88	7.92	±0.15	2.82	±0.08	110.36	±0.15	3.05	+0.13	142,560	255,781
WK-425	-304	-316	107.95	112.17	+0.88	5.79	+0.1/-0.15	1.55	±0.08	111.25	±0.15	1.73	+0.13	86,816	152,073
EK-108	-304	-316	108.00	112.22	+0.90	5.77	±0.13	1.55	±0.08	111.31	±0.15	1.73	+0.13	87,310	152,190
DNK-108	-304	-316	108.00	112.80	+1.30	6.73	±0.13	3.89	±0.10	112.00	±0.54	4.15	+0.18	105,270	364,000
WK-431	-304	-316	109.52	113.77	+0.88	5.79	+0.1/-0.15	1.55	±0.08	112.83	±0.15	1.73	+0.13	88,061	154,296
WK-433	-304	-316	109.98	114.22	+0.88	5.79	+0.1/-0.15	1.55	±0.08	113.28	±0.15	1.73	+0.13	88,461	154,918
EK-110	-304	-316	110.00	114.25	+0.90	5.77	±0.13	1.55	±0.08	113.31	±0.15	1.73	+0.13	62,140	155,000
WKT-425	-304	-316	107.95	114.30	+0.88	7.92	±0.15	2.82	±0.08	113.54	±0.15	3.05	+0.13	146,917	263,516
WKM-425	-304	-316	107.95	114.33	+0.88	7.92	+0.1/-0.2	2.82	±0.08	113.54	±0.15	3.05	+0.13	160,252	263,516
DNK-110	-304	-316	110.00	114.83	+1.30	6.73	±0.13	3.89	±0.10	114.00	±0.54	4.15	+0.18	107,220	370,741
WK-437	-304	-316	111.13	115.39	+0.88	5.79	+0.1/-0.15	1.55	±0.08	114.43	±0.15	1.73	+0.13	89,350	156,518
EK-112	-304	-316	112.00	116.44	+0.90	6.02	±0.13	1.55	±0.08	115.45	±0.15	1.73	+0.13	94,370	157,820
WKT-433	-304	-316	109.98	116.48	+0.88	7.92	±0.15	2.82	±0.08	115.72	±0.15	3.05	+0.13	153,762	268,495
DNK-112	-304	-316	112.00	116.84	+1.30	6.73	±0.13	3.89	±0.10	116.00	±0.54	4.15	+0.18	109,169	377,482
WKM-433	-304	-316	109.98	116.54	+0.88	7.92	+0.1/-0.2	2.82	±0.08	115.72	±0.15	3.05	+0.13	163,275	268,495
WK-443	-304	-316	112.70	117.12	+0.88	6.05	+0.1/-0.15	1.55	±0.08	116.15	±0.15	1.73	+0.13	94,818	158,741
WK-450	-304	-316	114.30	118.72	+0.88	6.05	+0.1/-0.15	1.55	±0.08	117.75	±0.15	1.73	+0.13	96,151	161,008
WK-452	-304	-316	114.99	119.41	+0.88	6.05	+0.1/-0.15	1.55	±0.08	118.44	±0.15	1.73	+0.13	96,729	161,986
EK-115	-304	-316	115.00	119.44	+0.90	6.02	±0.13	1.55	±0.08	118.45	±0.15	1.73	+0.13	96,890	162,050
DNK-115	-304	-316	115.00	119.86	+1.30	6.73	±0.13	3.89	±0.10	119.00	±0.54	4.15	+0.18	112,093	387,593
WK-456	-304	-316	115.87	120.32	+0.88	6.05	+0.1/-0.15	1.55	±0.08	119.33	±0.15	1.73	+0.13	97,485	163,231
WKM-450	-304	-316	114.30	121.11	+0.88	7.92	+0.1/-0.2	2.82	±0.08	120.27	±0.15	3.05	+0.13	169,676	279,030

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

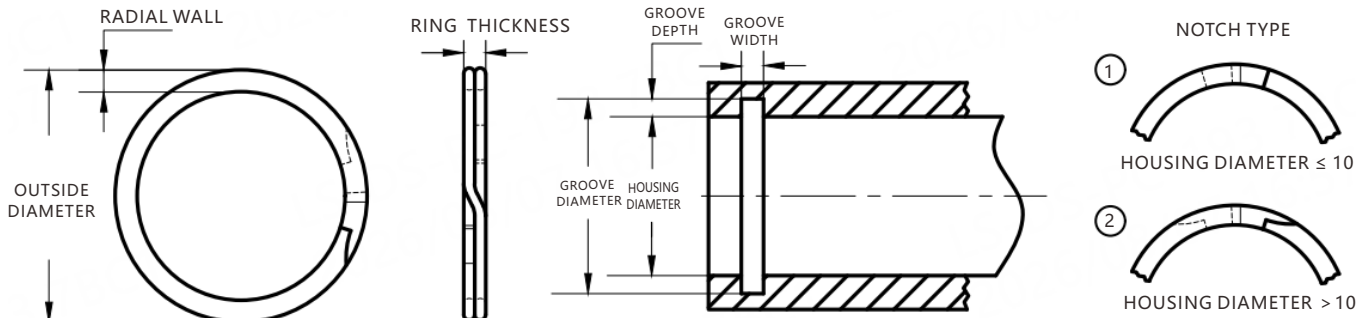
2-Turn Spiral Retaining Rings For Bore



Lispring Part Number ¹			Housing Diameter (mm)	Ring					Groove				Thrust Capacity		
Carbon Steel	304 SS	316 SS		Outside Diameter (mm)	Radial Wall (mm)		Thickness (mm)	Diameter (mm)	Width (mm)		Groove Yield (N)	Ring Shear (N)			
	Add Suffix	Add Suffix													
WKT-450	-304	-316	114.30	121.11	+0.88	7.92	+0.15	2.82	+0.08	120.27	+0.15	3.05	+0.13	166,831	279,030
WK-462	-304	-316	117.48	122.00	+0.88	6.35	+0.1/-0.15	1.83	+0.10	121.03	+0.15	2.01	+0.13	101,752	195,326
WK-468	-304	-316	119.05	123.62	+0.88	6.35	+0.1/-0.15	1.83	+0.10	122.61	+0.15	2.01	+0.13	103,086	197,948
WKT-462	-304	-316	117.48	124.38	+0.88	7.92	+0.15	2.82	+0.08	123.57	+0.15	3.05	+0.13	174,388	286,765
WKM-462	-304	-316	117.48	124.43	+0.88	7.92	+0.1/-0.2	2.82	+0.08	123.57	+0.15	3.05	+0.13	174,388	286,765
EK-120	-304	-316	120.00	124.54	+0.90	6.33	+0.13	1.83	+0.10	123.55	+0.15	2.00	+0.13	104,030	199,640
WK-472	-304	-316	119.99	124.54	+0.88	6.35	+0.1/-0.15	1.83	+0.10	123.55	+0.15	2.01	+0.13	103,886	199,504
DNK-120	-304	-316	120.00	124.92	+1.30	6.73	+0.13	3.89	+0.10	124.00	+0.63	4.15	+0.18	116,967	404,445
WK-475	-304	-316	120.65	125.22	+0.88	6.35	+0.1/-0.15	1.83	+0.10	124.21	+0.15	2.01	+0.13	104,464	200,615
WK-481	-304	-316	122.22	126.82	+0.88	6.35	+0.1/-0.15	1.83	+0.10	125.78	+0.15	2.01	+0.13	105,842	203,238
WKT-475	-304	-316	120.65	127.71	+0.88	7.92	+0.15	2.82	+0.08	126.87	+0.15	3.05	+0.13	183,590	294,544
WKM-475	-304	-316	120.65	127.76	+0.88	7.92	+0.1/-0.2	2.82	+0.08	126.87	+0.15	3.05	+0.13	183,590	294,544
WK-487	-304	-316	123.83	128.40	+0.88	6.35	+0.1/-0.15	1.83	+0.10	127.38	+0.15	2.01	+0.13	107,220	205,861
EK-125	-304	-316	125.00	129.59	+0.90	6.33	+0.13	1.83	+0.10	128.55	+0.15	2.00	+0.13	108,360	207,960
WK-492	-304	-316	124.99	129.59	+0.88	6.35	+0.1/-0.15	1.83	+0.10	128.55	+0.15	2.01	+0.13	108,243	207,817
DNK-125	-304	-316	125.00	129.97	+1.30	6.73	+0.13	3.89	+0.10	129.00	+0.63	4.15	+0.18	121,840	421,297
WK-493	-304	-316	125.40	130.10	+0.88	6.35	+0.1/-0.15	1.83	+0.10	129.06	+0.15	2.01	+0.13	111,710	208,484
WK-500	-304	-316	127.00	131.70	+0.88	6.35	+0.1/-0.15	1.83	+0.10	130.66	+0.15	2.01	+0.13	113,132	211,151
DNK-127	-304	-316	127.00	131.97	+1.30	6.73	+0.13	3.89	+0.10	131.00	+0.63	4.15	+0.18	123,790	428,038
WKT-500	-304	-316	127.00	134.49	+0.88	7.92	+0.15	2.82	+0.08	133.60	+0.15	3.05	+0.13	204,261	310,014
WKM-500	-304	-316	127.00	134.54	+0.88	7.92	+0.1/-0.2	2.82	+0.08	133.60	+0.15	3.05	+0.13	204,261	310,014
EK-130	-304	-316	130.00	134.71	+0.90	6.33	+0.13	1.83	+0.10	133.65	+0.15	2.00	+0.13	115,860	216,280
WK-511	-304	-316	130.00	134.72	+0.88	6.35	+0.1/-0.15	1.83	+0.10	133.65	+0.15	2.01	+0.13	115,800	216,130
WK-512	-304	-316	130.18	134.90	+0.88	6.35	+0.1/-0.15	1.83	+0.10	133.83	+0.15	2.01	+0.13	116,022	216,441
DNK-130	-304	-316	130.00	135.00	+1.30	6.73	+0.13	3.89	+0.10	134.00	+0.63	4.15	+0.18	126,714	438,149
WK-525	-304	-316	133.35	138.07	+1.14	6.35	+0.1/-0.15	1.83	+0.10	136.98	+0.18	2.01	+0.13	118,778	221,731
EK-135	-304	-316	135.00	139.74	+1.14	6.33	+0.13	1.83	+0.10	138.62	+0.18	2.00	+0.13	119,000	224,600
DNK-135	-304	-316	135.00	140.03	+1.30	6.73	+0.13	3.89	+0.10	139.00	+0.63	4.15	+0.18	131,588	455,001
WKM-525	-304	-316	133.35	141.20	+1.27	8.89	+0.1/-0.2	3.23	+0.10	140.21	+0.18	3.53	+0.15	222,709	372,470
WKT-525	-304	-316	133.35	141.20	+1.14	9.53	+0.15	3.23	+0.10	140.21	+0.18	3.53	+0.15	222,709	372,470
WK-537	-304	-316	136.53	141.38	+1.14	6.35	+0.1/-0.15	1.83	+0.10	140.26	+0.18	2.01	+0.13	125,001	226,976
WKT-537	-304	-316	136.53	144.40	+1.14	9.53	+0.15	3.23	+0.10	143.38	+0.18	3.53	+0.15	227,998	381,316
WKM-537	-304	-316	136.53	144.53	+1.27	8.89	+0.1/-0.2	3.23	+0.10	143.51	+0.18	3.53	+0.15	227,998	381,316
WK-550	-304	-316	139.70	144.60	+1.14	6.35	+0.1/-0.15	1.83	+0.10	143.43	+0.18	2.01	+0.13	127,891	232,266
WK-551	-304	-316	139.98	144.86	+1.14	6.35	+0.1/-0.15	1.83	+0.10	143.71	+0.18	2.01	+0.13	128,157	232,755
EK-140	-304	-316	140.00	144.87	+1.14	6.33	+0.13	1.83	+0.10	143.72	+0.18	2.00	+0.13	126,820	232,920
DNK-140	-304	-316	140.00	145.11	+1.30	6.73	+0.13	3.89	+0.10	144.00	+0.63	4.15	+0.18	136,461	471,852
WKM-550	-304	-316	139.70	147.57	+1.27	8.89	+0.1/-0.2	3.23	+0.10	146.56	+0.18	3.53	+0.15	233,288	390,207
WKT-550	-304	-316	139.70	147.57	+1.14	9.53	+0.15	3.23	+0.10	146.56	+0.18	3.53	+0.15	233,288	390,207
WK-562	-304	-316	142.88	147.78	+1.14	6.35	+0.1/-0.15	1.83	+0.10	146.61	+0.18	2.01	+0.13	130,691	237,556
EK-145	-304	-316	145.00	150.04	+1.14	6.33	+0.13	1.83	+0.10	148.82	+0.18	2.00	+0.13	134,880	241,230
WK-570	-304	-316	144.98	150.09	+1.14	6.35	+0.1/-0.15	1.83	+0.10	148.87	+0.18	2.01	+0.13	138,115	241,068
DNK-145	-304	-316	145.00	150.11	+1.30	6.73	+0.13	3.89	+0.10	149.00	+0.63	4.15	+0.18	141,335	488,704
WK-575	-304	-316	146.05	151.13	+1.14	6.35	+0.1/-0.15	1.83	+0.10	149.94	+0.10	2.01	+0.05	139,137	242,846
WKM-575	-304	-316	146.05	153.97	+1.27	8.89	+0.1/-0.2	3.23	+0.10	152.91	+0.18	3.53	+0.15	243,913	407,943
WKT-575	-304	-316	146.05	153.97	+1.14	9.53	+0.15	3.23	+0.10	152.91	+0.18	3.53	+0.15	243,913	407,943
WK-587	-304	-316	149.23	154.36	+1.14	6.35	+0.1/-0.15	1.83	+0.10	153.11	+0.18	2.01	+0.13	142,160	248,091
EK-150	-304	-316	150.00	155.07	+1.14	6.33	+0.13	1.83	+0.10	153.82	+0.18	2.00	+0.13	139,530	249,550

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

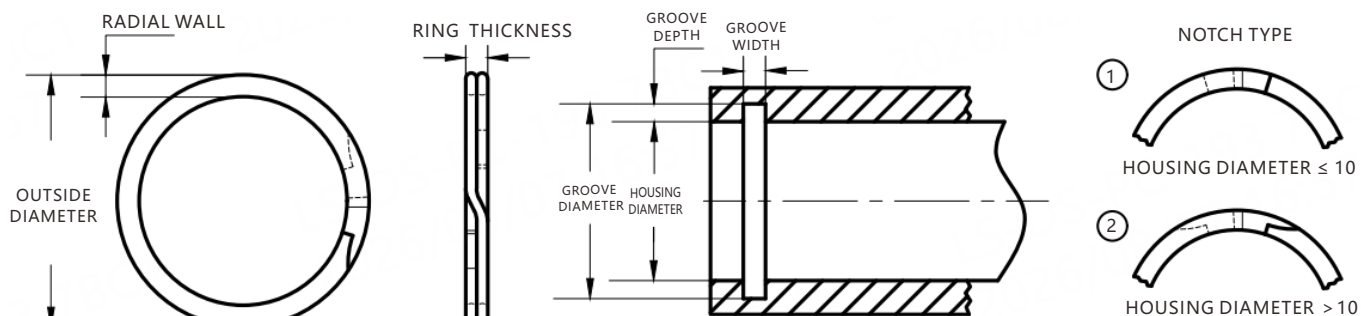
2-Turn Spiral Retaining Rings For Bore



Lispring Part Number ¹			Housing Diameter (mm)	Ring						Groove				Thrust Capacity	
Carbon Steel	304 SS	316 SS		Outside Diameter (mm)		Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)
	Add Suffix	Add Suffix													
WK-590	-304	-316	149.99	155.09	+1.40	6.35	+0.1/-0.15	1.83	±0.10	153.87	±0.18	2.01	±0.13	142,871	249,380
DNK-150	-304	-316	150.00	156.13	+1.40	7.92	±0.15	3.89	±0.10	155.00	±0.63	4.15	±0.18	182,761	505,556
WK-600	-304	-316	152.40	157.53	+1.14	6.35	+0.1/-0.15	1.83	±0.10	156.29	±0.18	2.01	±0.13	145,183	253,381
WKM-600	-304	-316	152.40	160.38	+1.27	8.89	+0.1/-0.2	3.23	±0.10	159.26	±0.18	3.53	±0.15	254,537	425,680
WKT-600	-304	-316	152.40	160.38	+1.14	9.53	±0.15	3.23	±0.10	159.26	±0.18	3.53	±0.15	254,537	425,680
EK-155	-304	-316	155.00	160.72	+1.40	7.88	±0.15	2.18	±0.10	159.40	±0.20	2.40	±0.15	166,080	307,190
DNK-155	-304	-316	155.00	161.19	+1.40	7.92	±0.15	3.89	±0.10	160.00	±0.63	4.15	±0.18	188,853	522,408
WK-612	-304	-316	155.58	161.26	+1.14	7.92	+0.1/-0.2	2.18	±0.10	159.94	±0.20	2.39	±0.15	165,364	308,947
WK-625	-304	-316	158.75	164.44	+1.39	7.92	+0.1/-0.2	2.18	±0.10	163.12	±0.20	2.39	±0.15	168,876	315,259
WK-629	-304	-316	159.99	165.71	+1.39	7.92	+0.1/-0.2	2.18	±0.10	164.36	±0.20	2.39	±0.15	170,210	317,749
EK-160	-304	-316	160.00	165.74	+1.40	7.88	±0.15	2.18	±0.10	164.40	±0.20	2.40	±0.15	171,433	317,100
DNK-160	-304	-316	160.00	166.22	+1.40	7.92	±0.15	3.89	±0.10	165.00	±0.63	4.15	±0.18	194,945	539,260
WKM-625	-304	-316	158.75	167.03	+1.40	9.65	+0.1/-0.2	3.96	±0.13	165.86	±0.20	4.42	±0.20	274,941	544,636
WK-637	-304	-316	161.93	167.67	+1.39	7.92	+0.1/-0.2	2.18	±0.10	166.29	±0.20	2.39	±0.15	172,255	321,572
EK-165	-304	-316	165.00	170.77	+1.40	7.88	±0.15	2.18	±0.10	169.40	±0.20	2.40	±0.15	176,790	327,010
WK-650	-304	-316	165.10	170.84	+1.39	7.92	+0.1/-0.2	2.18	±0.10	169.47	±0.20	2.39	±0.15	175,633	327,884
DNK-165	-304	-316	165.00	171.27	+1.40	7.92	±0.15	3.89	±0.10	170.00	±0.63	4.15	±0.18	201,037	556,112
WKM-650	-304	-316	165.10	173.69	+1.40	9.65	+0.1/-0.2	3.96	±0.13	172.47	±0.20	4.42	±0.20	296,145	566,418
WK-662	-304	-316	168.28	174.32	+1.39	7.92	+0.1/-0.2	2.18	±0.10	172.90	±0.20	2.39	±0.15	189,458	334,196
EK-170	-304	-316	170.00	176.05	+1.40	7.88	±0.15	2.18	±0.10	174.60	±0.20	2.40	±0.15	190,430	336,920
WK-669	-304	-316	169.98	176.05	+1.39	7.92	+0.1/-0.2	2.18	±0.10	174.60	±0.20	2.39	±0.15	191,369	337,575
DNK-170	-304	-316	170.00	176.33	+1.40	7.92	±0.15	3.89	±0.10	175.00	±0.63	4.15	±0.18	207,129	572,964
WKM-662	-304	-316	168.28	177.14	+1.40	9.65	+0.1/-0.2	3.96	±0.13	175.90	±0.20	4.42	±0.20	312,236	577,309
WK-675	-304	-316	171.45	177.47	+1.39	7.92	+0.1/-0.2	2.18	±0.10	176.07	±0.20	2.39	±0.15	193,014	340,508
WKM-675	-304	-316	171.45	180.47	+1.40	9.65	+0.1/-0.2	3.96	±0.13	179.20	±0.20	4.42	±0.20	324,505	588,199
WK-687	-304	-316	174.63	180.70	+1.39	7.92	+0.1/-0.2	2.18	±0.10	179.25	±0.20	2.39	±0.15	196,570	346,776
EK-175	-304	-316	175.00	181.05	+1.40	7.88	±0.15	2.18	±0.10	179.60	±0.20	2.40	±0.15	196,030	346,830
DNK-175	-304	-316	175.00	181.36	+1.40	7.92	±0.15	3.89	±0.10	180.00	±0.63	4.15	±0.18	213,221	589,815
WK-700	-304	-316	177.80	183.87	+1.39	7.92	+0.1/-0.2	2.18	±0.10	182.42	±0.20	2.39	±0.15	200,171	353,089
WK-708	-304	-316	179.98	186.36	+1.39	7.92	+0.1/-0.2	2.18	±0.10	184.86	±0.20	2.39	±0.15	213,729	357,445
EK-180	-304	-316	180.00	186.38	+1.40	7.88	±0.15	2.18	±0.10	184.88	±0.20	2.40	±0.15	213,900	356,740
DNK-180	-304	-316	180.00	186.39	+1.40	7.92	±0.15	3.89	±0.10	185.00	±0.72	4.15	±0.18	219,313	606,667
WKM-700	-304	-316	177.80	187.10	+1.40	9.65	+0.1/-0.2	3.96	±0.13	185.80	±0.20	4.42	±0.20	347,532	610,026
WK-712	-304	-316	180.98	187.35	+1.39	7.92	+0.1/-0.2	2.18	±0.10	185.85	±0.20	2.39	±0.15	214,929	359,401
WK-725	-304	-316	184.15	190.53	+1.65	7.92	+0.1/-0.2	2.18	±0.10	189.03	±0.20	2.39	±0.15	218,708	365,713
EK-185	-304	-316	185.00	191.10	+1.65	7.88	±0.15	2.18	±0.10	189.88	±0.20	2.40	±0.15	219,840	366,650
DNK-185	-304	-316	185.00	191.44	+1.78	7.92	±0.15	3.89	±0.10	190.00	±0.72	4.15	±0.18	225,405	623,519
WK-737	-304	-316	187.33	193.75	+1.65	7.92	+0.1/-0.2	2.18	±0.10	192.20	±0.20	2.39	±0.15	222,486	372,025
WKM-725	-304	-316	184.15	193.75	+1.78	10.62	+0.1/-0.2	4.75	±0.13	192.41	±0.20	5.31	±0.20	371,314	757,342
WK-748	-304	-316	189.99	196.44	+1.65	7.92	+0.1/-0.2	2.18	±0.10	194.87	±0.20	2.39	±0.15	225,642	377,315
EK-190	-304	-316	190.00	196.45	+1.65	7.88	±0.15	2.18	±0.10	194.88	±0.20	2.40	±0.15	225,790	376,560
DNK-190	-304	-316	190.00	196.47	+1.78	7.92	±0.15	3.89	±0.10	195.00	±0.72	4.15	±0.18	231,497	640,371
WK-750	-304	-316	190.50	196.95	+1.65	7.92	+0.1/-0.2	2.18	±0.10	195.38	±0.20	2.39	±0.15	226,220	378,338
WK-762	-304	-316	193.68	200.41	+1.65	7.92	+0.1/-0.2	2.18	±0.10	198.81	±0.20	2.39	±0.15	242,001	384,606
WKM-750	-304	-316	190.50	200.53	+1.78	10.62	+0.1/-0.2	4.75	±0.13	199.14	±0.20	5.31	±0.20	400,609	783,436
DNK-195	-304	-316	195.00	201.52	+1.78	7.92	±0.15	3.89	±0.10	200.00	±0.72	4.15	±0.18	237,589	657,223
EK-195	-304	-316	195.00	201.74	+1.65	7.88	±0.15	2.18	±0.10	200.14	±0.20	2.40	±0.15	244,070	386,460
WK-775	-304	-316	196.85	203.56	+1.65	7.92	+0.1/-0.2	2.18	±0.10	201.98	±0.20	2.39	±0.15	245,957	390,918

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

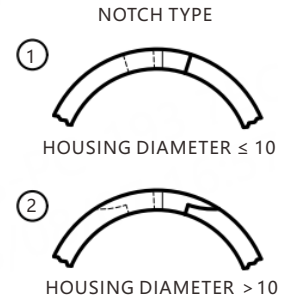
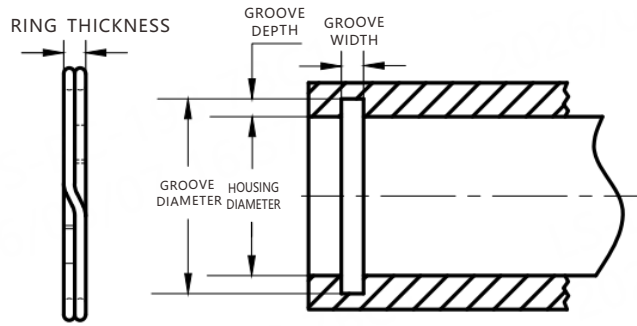
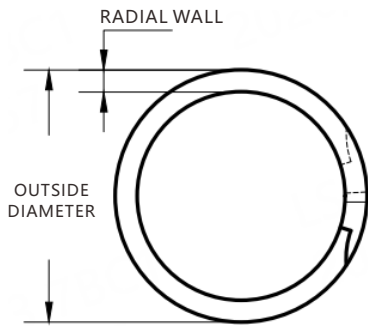
2-Turn Spiral Retaining Rings For Bore



Lispring Part Number ¹			Housing Diameter (mm)	Ring						Groove			Thrust Capacity		
Carbon Steel	304 SS	316 SS		Outside Diameter (mm)	Radial Wall (mm)		Thickness (mm)		Diameter (mm)	Width (mm)		Groove Yield (N)	Ring Shear (N)		
	Add Suffix	Add Suffix													
WK-787	-304	-316	200.03	206.53	+1.65	7.92	+0.1/-0.2	2.18	±0.10	205.16	±0.20	2.39	±0.15	281,653	397,230
DNK-200	-304	-316	200.00	206.58	+1.78	7.92	±0.15	3.89	±0.10	205.00	±0.72	4.15	±0.18	243,681	674,075
EK-200	-304	-316	200.00	206.76	+1.65	7.88	±0.15	2.18	±0.10	205.14	±0.20	2.40	±0.15	250,330	396,370
WKM-775	-304	-316	196.85	207.19	+1.78	10.62	+0.1/-0.2	4.75	±0.13	205.74	±0.20	5.31	±0.20	426,169	809,574
WK-800	-304	-316	203.20	209.96	+1.65	7.92	+0.1/-0.2	2.18	±0.10	208.33	±0.20	2.39	±0.15	253,870	403,543
WKM-800	-304	-316	203.20	213.84	+1.78	10.62	+0.1/-0.2	4.75	±0.13	212.34	±0.20	5.31	±0.20	452,485	835,668
WK-825	-304	-316	209.55	216.61	+1.65	9.53	+0.1/-0.2	2.18	±0.10	214.93	±0.20	2.39	±0.15	274,807	416,167
WK-826	-304	-316	209.98	217.07	+1.65	9.53	+0.1/-0.2	2.18	±0.10	215.37	±0.20	2.39	±0.15	275,341	417,012
EK-210	-304	-316	210.00	217.10	+1.65	9.48	±0.15	2.18	±0.10	215.40	±0.20	2.40	±0.15	276,140	416,490
DNK-210	-304	-316	210.00	217.58	+1.78	9.53	±0.15	4.86	±0.13	216.00	±0.72	5.15	±0.18	307,038	884,268
WKM-825	-304	-316	209.55	220.47	+1.78	11.10	+0.1/-0.2	4.75	±0.13	218.95	±0.20	5.31	±0.20	479,557	861,806
WK-846	-304	-316	214.99	222.10	+1.65	9.53	+0.1/-0.2	2.18	±0.10	220.37	±0.20	2.39	±0.15	281,920	426,969
WK-850	-304	-316	215.90	223.01	+1.65	9.53	+0.1/-0.2	2.18	±0.10	221.28	±0.20	2.39	±0.15	283,120	428,747
WKM-850	-304	-316	215.90	227.13	+1.78	11.10	+0.1/-0.2	4.75	±0.13	225.55	±0.20	5.31	±0.20	507,473	887,900
EK-220	-304	-316	220.00	227.40	+1.65	9.48	±0.15	2.18	±0.10	225.64	±0.20	2.40	±0.15	257,150	436,010
DNK-220	-304	-316	220.00	227.66	+1.78	9.53	±0.15	4.86	±0.13	226.00	±0.72	5.15	±0.18	321,659	926,376
WK-875	-304	-316	222.25	229.64	+1.65	9.53	+0.1/-0.2	2.18	±0.10	227.89	±0.20	2.39	±0.15	305,168	441,372
WK-885	-304	-316	224.99	232.44	+1.65	9.53	+0.1/-0.2	2.18	±0.10	230.63	±0.20	2.39	±0.15	308,947	446,840
WKM-875	-304	-316	222.25	233.91	+1.78	11.10	+0.1/-0.2	4.75	±0.13	232.28	±0.20	5.31	±0.20	544,369	914,038
WK-900	-304	-316	228.60	236.04	+1.65	9.53	+0.1/-0.2	2.18	±0.10	234.24	±0.20	2.39	±0.15	313,926	453,996
DNK-230	-304	-316	230.00	237.72	+1.78	9.53	±0.15	4.86	±0.13	236.00	±0.72	5.15	±0.18	336,280	968,484
WK-905	-304	-316	230.00	237.72	+1.65	9.53	+0.1/-0.2	2.18	±0.10	235.89	±0.20	2.39	±0.15	330,062	456,753
EK-230	-304	-316	230.00	237.73	+1.65	9.48	±0.15	2.18	±0.10	235.90	±0.20	2.40	±0.15	330,450	455,830
WKM-900	-304	-316	228.60	240.56	+1.78	11.10	+0.1/-0.2	4.75	±0.13	238.89	±0.20	5.31	±0.20	574,063	940,132
WK-925	-304	-316	234.95	242.70	+1.65	9.53	+0.1/-0.2	2.18	±0.10	240.84	±0.20	2.39	±0.15	337,174	466,577
WKM-925	-304	-316	234.95	247.32	+1.78	11.10	+0.1/-0.2	4.75	±0.13	245.59	±0.20	5.31	±0.20	610,381	966,271
WK-944	-304	-316	239.98	247.78	+1.65	9.53	+0.1/-0.2	2.18	±0.10	245.87	±0.20	2.39	±0.15	344,376	476,578
EK-240	-304	-316	240.00	247.80	+1.65	9.48	±0.15	2.18	±0.10	245.90	±0.20	2.40	±0.15	344,810	475,650
DNK-240	-304	-316	240.00	247.80	+1.78	9.53	±0.15	4.86	±0.13	246.00	±0.72	5.15	±0.18	350,900	1,010,592
WK-950	-304	-316	241.30	249.07	+1.65	9.53	+0.1/-0.2	2.18	±0.10	247.19	±0.20	2.39	±0.15	346,287	479,201
WKM-950	-304	-316	241.30	254.00	+1.78	12.70	+0.12/-0.25	4.75	±0.13	252.22	±0.20	5.31	±0.20	641,810	992,364
WK-975	-304	-316	247.65	255.73	+1.65	9.53	+0.1/-0.2	2.18	±0.10	253.80	±0.20	2.39	±0.15	370,692	491,826
DNK-250	-304	-316	250.00	257.89	+1.78	9.53	±0.15	4.86	±0.13	256.00	±0.81	5.15	±0.18	365,521	1,052,700
EK-250	-304	-316	250.00	258.10	+1.65	9.48	±0.15	2.18	±0.10	256.16	±0.20	2.40	±0.15	375,010	495,470
WKM-975	-304	-316	247.65	260.60	+1.78	12.70	+0.12/-0.25	4.75	±0.13	258.80	±0.20	5.31	±0.20	669,548	1,018,503
WK-1000	-304	-316	254.00	262.13	+1.65	9.53	+0.1/-0.2	2.18	±0.10	260.15	±0.20	2.39	±0.15	380,205	504,406
WKM-1000	-304	-316	254.00	267.28	+1.78	12.70	+0.12/-0.25	4.75	±0.13	265.43	±0.20	5.31	±0.20	706,977	1,044,596
EK-260	-304	-316	260.00	268.43	+1.65	9.48	±0.15	2.18	±0.10	266.40	±0.20	2.40	±0.15	405,210	515,290
WK-1025	-304	-316	260.35	268.78	+1.65	9.53	+0.1/-0.2	2.18	±0.10	266.75	±0.20	2.39	±0.15	405,810	517,031
DNK-260	-304	-316	260.00	269.93	+1.78	11.14	±0.15	4.86	±0.13	268.00	±0.81	5.15	±0.18	506,856	1,094,808
WKM-1025	-304	-316	260.35	273.96	+1.78	12.70	+0.12/-0.25	4.75	±0.13	272.06	±0.20	5.31	±0.20	744,007	1,070,735
WK-1050	-304	-316	266.70	275.18	+1.65	9.53	+0.1/-0.2	2.18	±0.10	273.10	±0.20	2.39	±0.15	415,723	529,655
EK-270	-304	-316	270.00	278.50	+1.65	9.48	±0.15	2.18	±0.10	276.40	±0.20	2.40	±0.15	420,790	535,100
DNK-270	-304	-316	270.00	280.01	+1.78	11.14	±0.15	4.86	±0.13	278.00	±0.81	5.15	±0.18	526,351	1,136,916
WKM-1050	-304	-316	266.70	280.59	+1.78	12.70	+0.12/-0.25	4.75	±0.13	278.64	±0.20	5.31	±0.20	775,346	1,096,828
WK-1075	-304	-316	273.05	281.81	+1.65	9.53	+0.1/-0.2	2.18	±0.10	279.70	±0.20	2.39	±0.15	442,483	542,280
WKM-1075	-304	-316	273.05	287.35	+3.05	12.70	+0.12/-0.25	4.75	±0.13	285.34	±0.25	5.31	±0.20	817,443	1,122,967
WK-1100	-304	-316	279.40	288.21	+1.65	9.53	+0.1/-0.2	2.18	±0.10	286.05	±0.20	2.39	±0.15	452,796	554,860

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

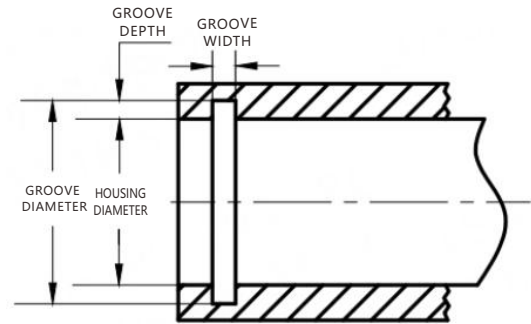
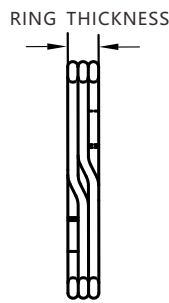
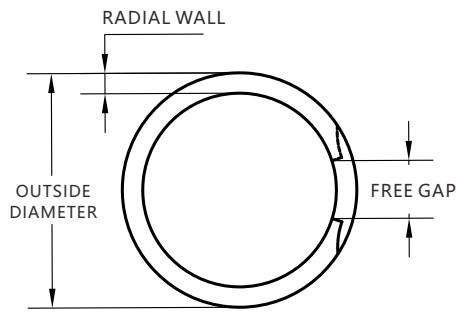
2-Turn Spiral Retaining Rings For Bore



Lispring Part Number ¹			Housing Diameter (mm)	Ring						Groove			Thrust Capacity		
Carbon Steel	304 SS	316 SS		Outside Diameter (mm)	Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)	
	Add Suffix	Add Suffix													
EK-280	-304	-316	280.00	288.82	+1.65	9.48	±0.15	2.18	±0.10	286.66	±0.20	2.40	±0.15	454,100	554,920
DNK-280	-304	-316	280.00	290.09	+3.05	11.14	±0.15	4.86	±0.13	288.00	±0.81	5.15	±0.18	545,845	1,179,024
WKM-1100	-304	-316	279.40	294.01	+3.05	12.70	+0.12/-0.25	4.75	±0.13	291.97	±0.25	5.31	±0.20	857,183	1,149,060
DNK-290	-304	-316	290.00	300.15	+3.05	11.14	±0.15	4.86	±0.13	298.00	±0.81	5.15	±0.18	565,340	1,221,132
WKM-1125	-304	-316	285.75	300.69	+3.05	12.70	+0.12/-0.25	4.75	±0.13	298.60	±0.25	5.31	±0.20	894,346	1,175,199
WKM-1150	-304	-316	292.10	307.39	+3.05	14.27	+0.12/-0.25	4.75	±0.13	305.26	±0.25	5.31	±0.20	935,909	1,201,292
DNK-300	-304	-316	300.00	310.24	+3.05	11.14	±0.15	4.86	±0.13	308.00	±0.81	5.15	±0.18	584,834	1,263,241
WKM-1175	-304	-316	298.45	314.07	+3.05	14.27	+0.12/-0.25	4.75	±0.13	311.89	±0.25	5.31	±0.20	978,406	1,227,431
WKM-1200	-304	-316	304.80	320.75	+3.05	14.27	+0.12/-0.25	4.75	±0.13	318.52	±0.25	5.31	±0.20	1,018,058	1,253,525
DNK-310	-304	-316	310.00	322.25	+3.05	12.70	±0.19	5.87	±0.13	320.00	±0.89	6.20	±0.22	755,411	1,576,625
WKM-1225	-304	-316	311.15	327.43	+3.05	14.27	+0.12/-0.25	4.75	±0.13	325.15	±0.25	5.31	±0.20	1,062,377	1,279,618
DNK-320	-304	-316	320.00	332.33	+3.05	12.70	+0.19	5.87	±0.13	330.00	±0.89	6.20	±0.22	779,779	1,627,484
WKM-1250	-304	-316	317.50	334.11	+3.05	14.27	+0.12/-0.25	4.75	±0.13	331.80	±0.25	5.31	±0.20	1,107,630	1,305,757
WKM-1275	-304	-316	323.85	340.79	+3.05	14.27	+0.12/-0.25	4.75	±0.13	338.43	±0.30	5.31	±0.20	1,149,816	1,331,850
DNK-330	-304	-316	330.00	342.42	+3.05	12.70	±0.19	5.87	±0.13	340.00	±0.89	6.20	±0.22	804,147	1,678,342
WKM-1300	-304	-316	330.20	347.47	+3.56	16.81	+0.12/-0.25	4.75	±0.13	345.06	±0.30	5.31	±0.20	1,196,847	1,357,989
DNK-340	-304	-316	340.00	352.50	+3.56	12.70	±0.19	5.87	±0.13	350.00	±0.89	6.20	±0.22	828,515	1,729,201
WKM-1325	-304	-316	336.55	354.15	+3.56	16.81	+0.12/-0.25	4.75	±0.13	351.69	±0.30	5.31	±0.20	1,240,678	1,384,082
WKM-1350	-304	-316	342.90	360.86	+3.56	16.81	+0.12/-0.25	4.75	±0.13	358.34	±0.30	5.31	±0.20	1,289,576	1,410,221
DNK-350	-304	-316	350.00	362.56	+3.56	12.70	±0.19	5.87	±0.13	360.00	±0.89	6.20	±0.22	852,883	1,780,060
WKM-1375	-304	-316	349.25	367.54	+3.56	16.81	+0.12/-0.25	4.75	±0.13	364.97	±0.30	5.31	±0.20	1,339,363	1,436,314
DNK-360	-304	-316	360.00	372.64	+3.56	12.70	±0.19	5.87	±0.13	370.00	±0.89	6.20	±0.22	877,251	1,830,919
WKM-1400	-304	-316	355.60	374.19	+3.56	16.81	+0.12/-0.25	4.75	±0.13	371.60	±0.30	5.31	±0.20	1,385,727	1,462,453
WKM-1425	-304	-316	361.95	380.87	+3.56	16.81	+0.12/-0.25	4.75	±0.13	378.23	±0.30	5.31	±0.20	1,437,337	1,488,546
DNK-370	-304	-316	370.00	382.73	+3.56	12.70	±0.19	5.87	±0.13	380.00	±0.89	6.20	±0.22	901,619	1,881,778
WKM-1450	-304	-316	368.30	387.58	+3.56	19.05	+0.12/-0.25	4.75	±0.13	384.89	±0.30	5.31	±0.20	1,489,880	1,514,685
DNK-380	-304	-316	380.00	392.79	+3.56	12.70	±0.19	5.87	±0.13	390.00	±0.89	6.20	±0.22	925,987	1,932,637
WKM-1475	-304	-316	374.65	394.26	+3.56	19.05	+0.12/-0.25	4.75	±0.13	391.52	±0.30	5.31	±0.20	1,538,734	1,540,779
WKM-1500	-304	-316	381.00	400.94	+3.56	19.05	+0.12/-0.25	4.75	±0.13	398.15	±0.30	5.31	±0.20	1,593,099	1,566,917
DNK-390	-304	-316	390.00	402.84	+3.56	12.70	±0.19	5.87	±0.13	400.00	±0.89	6.20	±0.22	950,355	1,983,496
DNK-400	-304	-316	400.00	412.93	+3.56	12.70	±0.19	5.87	±0.13	410.00	±0.89	6.20	±0.22	974,723	2,034,354

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

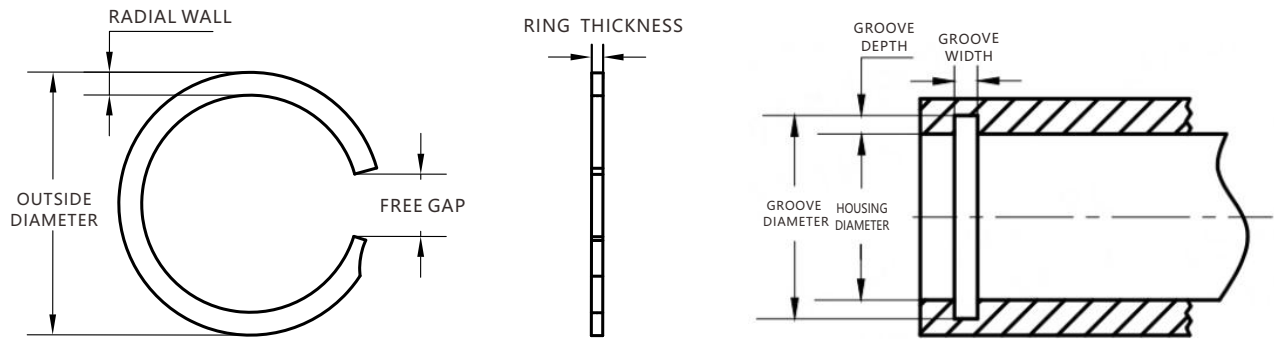
3-Turn Spiral Retaining Rings For Bore



Lispring Part Number ¹			Housing Diameter (mm)	Ring						Groove				Thrust Capacity	
Carbon Steel	304 SS	316 SS		Outside Diameter (mm)	Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)	
	Add Suffix	Add Suffix													
WKT-625	-304	-316	158.75	167.03	+1.40	7.92	±0.15	4.19	±0.13	165.86	±0.20	4.42	±0.20	274,941	576,064
WKT-650	-304	-316	165.10	173.66	+1.40	7.92	±0.15	4.19	±0.13	172.47	±0.20	4.42	±0.20	296,145	599,135
WKT-662	-304	-316	168.28	177.11	+1.40	7.92	±0.15	4.19	±0.13	175.90	±0.20	4.42	±0.20	312,236	610,648
WKT-675	-304	-316	171.45	180.44	+1.40	7.92	±0.15	4.19	±0.13	179.20	±0.20	4.42	±0.20	324,505	622,161
WKT-700	-304	-316	177.80	187.10	+1.40	7.92	±0.15	4.19	±0.13	185.80	±0.20	4.42	±0.20	347,532	645,188
WKT-725	-304	-316	184.15	193.75	+1.78	9.53	±0.15	4.80	±0.13	192.41	±0.20	5.31	±0.20	371,314	765,433
WKT-750	-304	-316	190.50	200.53	+1.78	9.53	±0.15	4.80	±0.13	199.14	±0.20	5.31	±0.20	400,609	791,838
WKT-775	-304	-316	196.85	207.16	+1.78	9.53	±0.15	4.80	±0.13	205.74	±0.20	5.31	±0.20	426,169	818,243
WKT-800	-304	-316	203.20	213.82	+1.78	9.53	±0.15	4.80	±0.13	212.34	±0.20	5.31	±0.20	452,485	844,603
WKT-825	-304	-316	209.55	220.47	+1.78	9.53	±0.15	4.80	±0.13	218.95	±0.20	5.31	±0.20	479,557	871,008
WKT-850	-304	-316	215.90	227.13	+1.78	9.53	±0.15	4.80	±0.13	225.55	±0.20	5.31	±0.20	507,473	897,413
WKT-875	-304	-316	222.25	233.91	+1.78	9.53	±0.15	4.80	±0.13	232.28	±0.20	5.31	±0.20	544,369	923,818
WKT-900	-304	-316	228.60	240.56	+1.78	9.53	±0.15	4.80	±0.13	238.89	±0.20	5.31	±0.20	574,063	950,179
WKT-925	-304	-316	234.95	247.29	+1.78	9.53	±0.15	4.80	±0.13	245.59	±0.20	5.31	±0.20	610,381	976,584
WKT-950	-304	-316	241.30	253.97	+1.78	9.53	±0.15	4.80	±0.13	252.22	±0.20	5.31	±0.20	641,810	1,002,989
WKT-975	-304	-316	247.65	260.60	+1.78	9.53	±0.15	4.80	±0.13	258.80	±0.20	5.31	±0.20	673,993	1,029,393
WKT-1000	-304	-316	254.00	268.02	+1.78	9.53	±0.15	4.80	±0.13	265.43	±0.20	5.31	±0.20	706,977	1,055,754
WKT-1050	-304	-316	266.70	281.23	+1.78	9.53	±0.15	4.80	±0.13	278.64	±0.20	5.31	±0.20	775,346	1,108,564

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

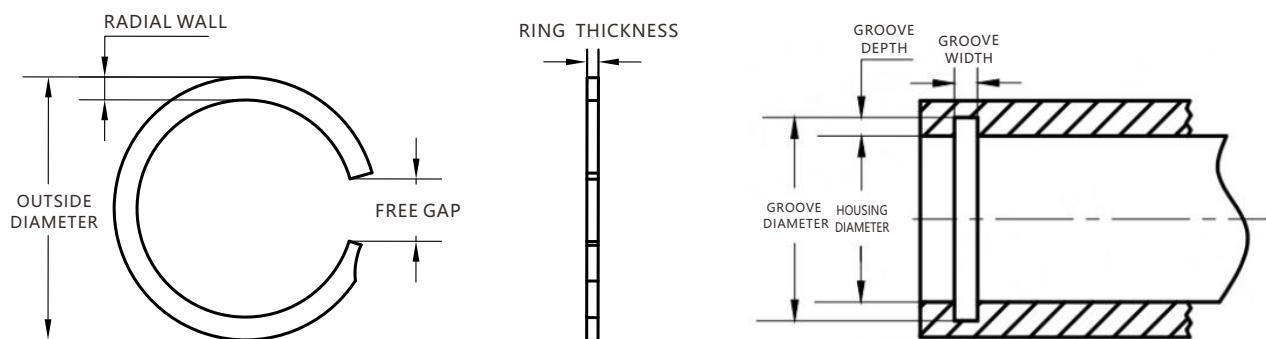
Constant Section Retaining Rings For Bore



Lispring Part Number ¹		Housing Diameter (mm)	Ring						Groove			Thrust Capacity	
Carbon Steel	304 SS Add Suffix		Outside Diameter (mm)		Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)	Groove Yield (N)	Ring Shear (N)
DKL-013	-304	13.00	13.73	+0.33	1.40	±0.10	.94	±0.05	13.60	+0.11	1.10	1,931	10,591
DKL-014	-304	14.00	14.74	+0.33	1.40	±0.10	.94	±0.05	14.60	+0.11	1.10	2,077	11,396
DKL-015	-304	15.00	15.85	+0.33	1.40	±0.10	.94	±0.05	15.70	+0.11	1.10	2,602	12,224
DKL-016	-304	16.00	16.90	+0.33	1.65	±0.10	.94	±0.05	16.80	+0.11	1.10	3,172	13,029
DKL-017	-304	17.00	17.97	+0.33	1.65	±0.10	.94	±0.05	17.80	+0.11	1.10	3,367	13,838
DKL-018	-304	18.00	19.18	+0.33	1.90	±0.10	.94	±0.05	19.00	+0.13	1.10	4,457	14,666
DKL-019	-304	19.00	20.25	+0.33	1.90	±0.10	.94	±0.05	20.00	+0.13	1.10	4,702	15,471
DKL-020	-304	20.00	21.20	+0.33	1.90	±0.10	.94	±0.05	21.00	+0.13	1.10	4,951	16,276
DKL-021	-304	21.00	22.21	+0.33	1.90	±0.10	.94	±0.05	22.00	+0.13	1.10	5,200	17,103
DKL-022	-304	22.00	23.22	+0.33	1.90	±0.10	.94	±0.05	23.00	+0.13	1.10	5,445	17,913
DKL-023	-304	23.00	24.23	+0.38	1.90	±0.10	.94	±0.05	24.00	+0.21	1.10	5,698	18,736
DKL-024	-304	24.00	25.40	+0.38	2.15	±0.10	1.15	±0.05	25.20	+0.21	1.30	6,539	23,927
DKL-025	-304	25.00	26.45	+0.38	2.15	±0.10	1.15	±0.05	26.20	+0.21	1.30	6,806	24,914
DKL-026	-304	26.00	27.46	+0.38	2.15	±0.10	1.15	±0.05	27.20	+0.21	1.30	7,082	25,929
DKL-027	-304	27.00	28.47	+0.38	2.38	±0.10	1.15	±0.05	28.20	+0.21	1.30	7,353	26,916
DKL-028	-304	28.00	29.68	+0.38	2.38	±0.10	1.15	±0.05	29.40	+0.21	1.30	9,702	27,904
DKL-029	-304	29.00	30.69	+0.38	2.38	±0.10	1.15	±0.05	30.40	+0.21	1.30	10,053	28,918
DKL-030	-304	30.00	31.79	+0.38	2.38	±0.10	1.15	±0.05	31.40	+0.25	1.30	10,395	29,905
DKL-031	-304	31.00	33.01	+0.38	2.38	±0.10	1.15	±0.05	32.70	+0.25	1.30	12,660	30,893
DKL-032	-304	32.00	33.93	+0.38	2.38	±0.10	1.15	±0.05	33.70	+0.25	1.30	13,073	31,907
DKL-033	-304	33.00	35.03	+0.38	2.38	±0.10	1.15	±0.05	34.70	+0.25	1.30	13,478	32,895
DKL-034	-304	34.00	36.04	+0.38	3.25	±0.10	1.44	±0.05	35.70	+0.25	1.60	13,892	40,319
DKL-035	-304	35.00	37.35	+0.38	3.25	±0.10	1.44	±0.05	37.00	+0.25	1.60	16,899	41,493
DKL-036	-304	36.00	38.36	+0.38	3.25	±0.10	1.44	±0.05	38.00	+0.25	1.60	17,375	42,663
DKL-037	-304	37.00	39.37	+0.38	3.25	±0.10	1.44	±0.05	39.00	+0.25	1.60	17,869	43,868
DKL-038	-304	38.00	40.44	+0.38	3.25	±0.10	1.44	±0.05	40.00	+0.25	1.60	18,344	45,043
DKL-040	-304	40.00	42.86	+0.51	4.01	±0.10	1.69	±0.05	42.50	+0.25	1.85	24,265	55,621
DKL-041	-304	41.00	43.91	+0.51	4.01	±0.10	1.69	±0.05	43.50	+0.25	1.85	24,866	56,995
DKL-042	-304	42.00	44.92	+0.51	4.01	±0.10	1.69	±0.05	44.50	+0.25	1.85	25,484	58,410
DKL-045	-304	45.00	47.88	+0.51	4.01	±0.10	1.69	±0.05	47.50	+0.25	1.85	27,303	62,578
DKL-047	-304	47.00	49.97	+0.51	4.01	±0.10	1.69	±0.05	49.50	+0.25	1.85	28,504	65,331
DKL-048	-304	48.00	50.98	+0.51	4.01	±0.10	1.69	±0.05	50.50	+0.30	1.85	29,118	66,741
DKL-050	-304	50.00	53.50	+0.63	5.08	±0.13	1.93	±0.08	53.00	+0.30	2.15	36,529	75,282
DKL-051	-304	51.00	54.43	+0.63	5.08	±0.13	1.93	±0.08	54.00	+0.30	2.15	37,249	76,776
DKL-052	-304	52.00	55.52	+0.63	5.08	±0.13	1.93	±0.08	55.00	+0.30	2.15	37,974	78,266
DKL-055	-304	55.00	58.55	+0.63	5.08	±0.13	1.93	±0.08	58.00	+0.30	2.15	40,163	82,777
DKL-056	-304	56.00	59.56	+0.63	5.08	±0.13	1.93	±0.08	59.00	+0.30	2.15	40,906	84,307
DKL-057	-304	57.00	60.68	+0.63	5.08	±0.13	1.93	±0.08	60.00	+0.30	2.15	41,631	85,797
DKL-058	-304	58.00	61.58	+0.63	5.08	±0.13	1.93	±0.08	61.00	+0.30	2.15	42,352	87,287
DKL-060	-304	60.00	63.60	+0.63	5.08	±0.13	1.93	±0.08	63.00	+0.30	2.15	43,819	90,308
DKL-062	-304	62.00	65.58	+0.63	5.08	±0.13	1.93	±0.08	65.00	+0.30	2.15	45,283	93,328
DKL-063	-304	63.00	66.63	+0.63	5.08	±0.13	1.93	±0.08	66.00	+0.30	2.15	46,008	94,823
DKL-064	-304	64.00	67.64	+0.63	5.08	±0.13	2.41	±0.08	67.00	+0.30	2.65	46,751	114,742

¹Suffix -304 appended to the part number denotes material as Grade 304 stainless steel.

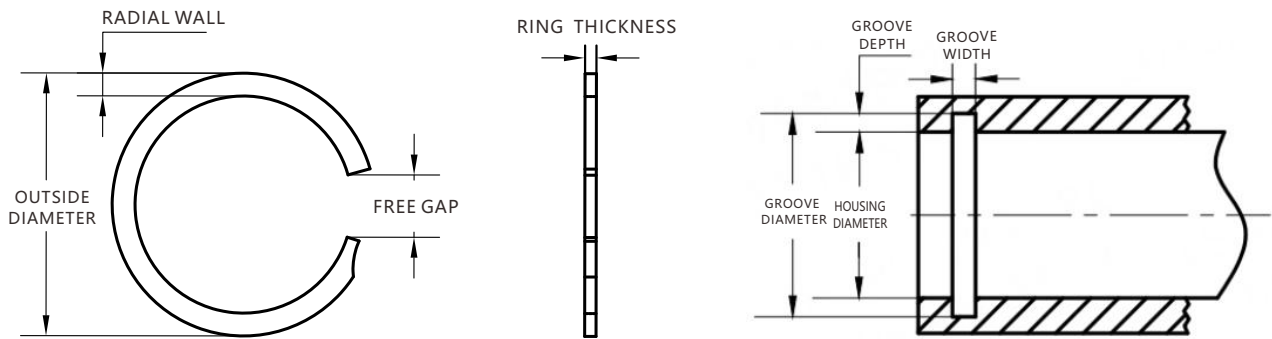
Constant Section Retaining Rings For Bore



Lispring Part Number ¹		Housing Diameter (mm)	Ring						Groove			Thrust Capacity	
Carbon Steel	304 SS Add Suffix		Outside Diameter (mm)		Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)	Groove Yield (N)	Ring Shear (N)
DKL-065	-304	65.00	68.70	+0.76	5.08	±0.13	2.41	±0.08	68.00	+0.30	2.65	47,471	116,517
DKL-067	-304	67.00	70.54	+0.76	5.08	±0.13	2.41	±0.08	70.00	+0.30	2.65	48,939	120,115
DKL-068	-304	68.00	71.84	+0.76	5.08	±0.13	2.41	±0.08	71.00	+0.30	2.65	49,660	121,890
DKL-070	-304	70.00	73.64	+0.76	5.08	±0.13	2.41	±0.08	73.00	+0.30	2.65	51,128	125,489
DKL-072	-304	72.00	75.72	+0.76	5.08	±0.13	2.41	±0.08	75.00	+0.30	2.65	52,591	129,083
DKL-075	-304	75.00	78.75	+0.76	5.08	±0.13	2.41	±0.08	78.00	+0.30	2.65	54,780	134,456
DKL-076	-304	76.00	79.88	+0.76	5.08	±0.13	2.41	±0.08	79.00	+0.30	2.65	55,505	136,231
DKL-078	-304	78.00	81.73	+0.76	5.08	±0.13	2.41	±0.08	81.00	+0.35	2.65	56,968	139,830
DKL-080	-304	80.00	84.30	+0.76	6.02	±0.13	2.41	±0.08	83.50	+0.36	2.65	68,342	143,428
DKL-082	-304	82.00	86.32	+0.76	6.02	±0.13	2.41	±0.08	85.50	+0.35	2.65	70,033	146,978
DKL-085	-304	85.00	89.35	+0.89	6.30	±0.13	2.91	±0.08	88.50	+0.35	3.15	72,595	175,046
DKL-088	-304	88.00	92.38	+0.89	6.30	±0.13	2.91	±0.08	91.50	+0.35	3.15	75,175	181,269
DKL-090	-304	90.00	94.70	+0.89	6.30	±0.13	2.91	±0.08	93.50	+0.35	3.15	76,865	185,353
DKL-092	-304	92.00	96.50	+0.89	6.30	±0.13	2.91	±0.08	95.50	+0.35	3.15	78,582	189,485
DKL-095	-304	95.00	99.62	+0.89	6.30	±0.13	2.91	±0.08	98.50	+0.35	3.15	81,140	195,659
DKL-098	-304	98.00	102.71	+0.89	6.30	±0.13	2.91	±0.08	101.50	+0.35	3.15	83,702	201,829
DKL-100	-304	100.00	104.50	+0.89	6.30	±0.13	2.91	±0.08	103.50	+0.35	3.15	85,415	205,962
DKL-102	-304	102.00	107.27	+1.30	6.73	±0.13	3.89	±0.10	106.00	+0.54	4.15	87,127	269,224
DKL-105	-304	105.00	109.96	+1.30	6.73	±0.13	3.89	±0.10	109.00	+0.54	4.15	102,687	277,133
DKL-108	-304	108.00	113.09	+1.30	6.73	±0.13	3.89	±0.10	112.00	+0.54	4.15	105,619	285,042
DKL-110	-304	110.00	115.10	+1.30	6.73	±0.13	3.89	±0.10	114.00	+0.54	4.15	107,580	290,340
DKL-112	-304	112.00	117.12	+1.30	6.73	±0.13	3.89	±0.10	116.00	+0.54	4.15	109,520	295,567
DKL-115	-304	115.00	120.15	+1.30	6.73	±0.13	3.89	±0.10	119.00	+0.54	4.15	112,473	303,547
DKL-120	-304	120.00	125.60	+1.30	6.73	±0.13	3.89	±0.10	124.00	+0.63	4.15	117,344	316,687
DKL-125	-304	125.00	130.25	+1.30	6.73	±0.13	3.89	±0.10	129.00	+0.63	4.15	122,237	329,893
DKL-127	-304	127.00	132.27	+1.30	6.73	±0.13	3.89	±0.10	131.00	+0.63	4.15	124,199	335,187
DKL-130	-304	130.00	135.30	+1.30	6.73	±0.13	3.89	±0.10	134.00	+0.63	4.15	127,130	343,096
DKL-135	-304	135.00	140.35	+1.30	6.73	±0.13	3.89	±0.10	139.00	+0.63	4.15	132,023	356,303
DKL-140	-304	140.00	145.26	+1.30	6.73	±0.13	3.89	±0.10	144.00	+0.63	4.15	136,916	369,509
DKL-145	-304	145.00	150.45	+1.30	6.73	±0.13	3.89	±0.10	149.00	+0.63	4.15	141,809	382,716
DKL-150	-304	150.00	156.50	+1.40	8.03	±0.15	3.89	±0.10	155.00	+0.63	4.15	181,986	395,923
DKL-155	-304	155.00	161.55	+1.40	8.03	±0.15	3.89	±0.10	160.00	+0.63	4.15	188,026	409,063
DKL-160	-304	160.00	166.60	+1.40	8.03	±0.15	3.89	±0.10	165.00	+0.63	4.15	194,094	422,270
DKL-165	-304	165.00	171.70	+1.40	8.03	±0.15	3.89	±0.10	170.00	+0.63	4.15	200,166	435,476
DKL-170	-304	170.00	176.70	+1.40	8.03	±0.15	3.89	±0.10	175.00	+0.63	4.15	206,237	448,683
DKL-175	-304	175.00	181.75	+1.40	8.03	±0.15	3.89	±0.10	180.00	+0.63	4.15	212,305	461,890
DKL-180	-304	180.00	186.80	+1.40	8.03	±0.15	3.89	±0.10	185.00	+0.72	4.15	218,377	475,097
DKL-185	-304	185.00	191.85	+1.78	8.03	±0.15	3.89	±0.10	190.00	+0.72	4.15	224,417	488,232
DKL-190	-304	190.00	197.15	+1.78	8.03	±0.15	3.89	±0.10	195.00	+0.72	4.15	230,489	501,439
DKL-195	-304	195.00	201.95	+1.78	8.03	±0.15	3.89	±0.10	200.00	+0.72	4.15	236,556	514,646
DKL-200	-304	200.00	207.00	+1.78	8.03	±0.15	3.89	±0.10	205.00	+0.72	4.15	242,628	527,853
DKL-210	-304	210.00	217.93	+1.78	9.48	±0.15	4.87	±0.13	216.00	+0.72	5.15	306,763	657,096
DKL-220	-304	220.00	228.20	+1.78	9.48	±0.15	4.87	±0.13	226.00	+0.72	5.15	321,344	688,327
DKL-230	-304	230.00	238.30	+1.78	9.48	±0.15	4.87	±0.13	236.00	+0.72	5.15	335,961	719,638
DKL-240	-304	240.00	248.40	+1.78	9.48	±0.15	4.87	±0.13	246.00	+0.72	5.15	350,578	750,953
DKL-250	-304	250.00	258.50	+1.78	9.48	±0.15	4.87	±0.13	256.00	+0.81	5.15	365,199	782,264
DKL-260	-304	260.00	270.77	+1.78	11.05	±0.18	4.87	±0.13	268.00	+0.81	5.15	505,300	813,500
DKL-270	-304	270.00	280.70	+1.78	11.05	±0.18	4.87	±0.13	278.00	+0.81	5.15	524,748	844,811
DKL-280	-304	280.00	290.57	+3.05	11.05	±0.18	4.87	±0.13	288.00	+0.81	5.15	544,200	876,126
DKL-290	-304	290.00	300.90	+3.05	11.05	±0.18	4.87	±0.13	298.00	+0.81	5.15	563,599	907,357
DKL-300	-304	300.00	311.00	+3.05	11.05	±0.18	4.87	±0.13	308.00	+0.81	5.15	583,051	938,673

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel.

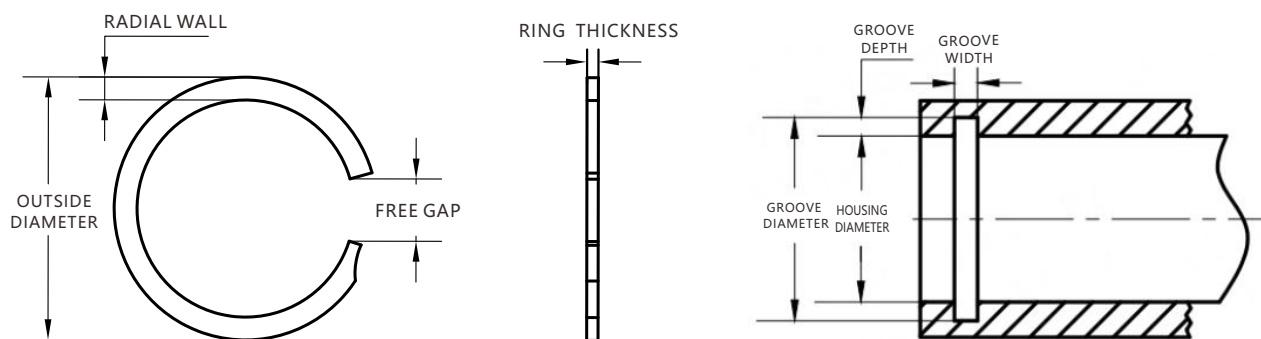
Constant Section Retaining Rings For Bore



Lispring Part Number ¹		Housing Diameter (mm)	Ring						Groove				Thrust Capacity	
Carbon Steel	304 SS		Outside Diameter (mm)		Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)
	Add Suffix													
KLR-0050	-304	12.70	13.44	+0.33	1.40	±0.10	0.94	±0.05	13.31	+0.10	1.09	+0.15	1,925	10,556
KLR-0056	-304	14.27	15.01	+0.33	1.40	±0.10	0.94	±0.05	14.88	+0.10	1.09	+0.15	2,166	11,863
KLR-0062	-304	15.88	16.89	+0.33	1.65	±0.10	0.94	±0.05	16.69	+0.10	1.09	+0.15	3,210	13,193
KLR-0068	-304	17.45	18.44	+0.33	1.65	±0.10	0.94	±0.05	18.26	+0.10	1.09	+0.15	3,528	14,501
KLR-0075	-304	19.05	20.24	+0.33	1.90	±0.10	0.94	±0.05	20.07	+0.13	1.09	+0.15	4,812	15,831
KLR-0081	-304	20.62	21.84	+0.33	1.90	±0.10	0.94	±0.05	21.64	+0.13	1.09	+0.15	5,212	17,139
KLR-0087	-304	22.23	23.47	+0.33	1.90	±0.10	0.94	±0.05	23.24	+0.13	1.09	+0.15	5,616	18,469
KLR-0093	-304	23.80	25.40	+0.38	2.15	±0.10	1.15	±0.05	25.02	+0.20	1.30	+0.15	7,219	24,216
KLR-0100	-304	25.40	26.87	+0.38	2.15	±0.10	1.15	±0.05	26.62	+0.20	1.30	+0.15	7,700	25,846
KLR-0106	-304	26.97	28.47	+0.38	2.38	±0.10	1.15	±0.05	28.19	+0.20	1.30	+0.15	8,181	27,444
KLR-0112	-304	28.58	30.28	+0.38	2.38	±0.10	1.15	±0.05	30.00	+0.20	1.30	+0.15	10,111	29,074
KLR-0118	-304	30.15	31.80	+0.38	2.38	±0.10	1.15	±0.05	31.57	+0.25	1.30	+0.15	10,664	30,677
KLR-0125	-304	31.75	33.93	+0.38	2.38	±0.10	1.15	±0.05	33.43	+0.25	1.30	+0.15	13,239	32,307
KLR-0131	-304	33.32	35.33	+0.38	2.38	±0.10	1.15	±0.05	35.00	+0.25	1.30	+0.15	13,892	33,909
KLR-0137	-304	34.93	37.34	+0.38	3.25	±0.10	1.45	±0.05	36.91	+0.25	1.60	+0.15	17,211	42,254
KLR-0143	-304	36.50	38.84	+0.38	3.25	±0.10	1.45	±0.05	38.48	+0.25	1.60	+0.15	17,983	44,161
KLR-0150	-304	38.10	40.44	+0.38	3.25	±0.10	1.45	±0.05	40.08	+0.25	1.60	+0.15	18,773	46,095
KLR-0156	-304	39.67	42.85	+0.51	4.01	±0.10	1.70	±0.05	42.32	+0.25	1.85	+0.15	26,064	56,296
KLR-0162	-304	41.28	44.35	+0.51	4.01	±0.10	1.70	±0.05	43.92	+0.25	1.85	+0.15	27,117	58,571
KLR-0168	-304	42.85	45.92	+0.51	4.01	±0.10	1.70	±0.05	45.49	+0.25	1.85	+0.15	28,153	60,804
KLR-0175	-304	44.45	47.88	+0.51	4.01	±0.10	1.70	±0.05	47.29	+0.25	1.85	+0.15	31,449	63,074
KLR-0181	-304	46.02	49.33	+0.51	4.01	±0.10	1.70	±0.05	48.87	+0.25	1.85	+0.15	32,565	65,308
KLR-0187	-304	47.63	50.98	+0.51	4.01	±0.10	1.70	±0.05	50.47	+0.30	1.85	+0.15	33,696	67,578
KLR-0193	-304	49.20	52.68	+0.63	5.08	±0.13	1.93	±0.08	52.20	+0.30	2.16	+0.15	36,674	75,586
KLR-0200	-304	50.80	54.43	+0.63	5.08	±0.13	1.93	±0.08	53.80	+0.30	2.16	+0.15	37,868	78,047
KLR-0206	-304	52.37	55.88	+0.63	5.08	±0.13	1.93	±0.08	55.37	+0.30	2.16	+0.15	39,039	80,467
KLR-0212	-304	53.98	57.51	+0.63	5.08	±0.13	1.93	±0.08	56.97	+0.30	2.16	+0.15	40,233	82,923
KLR-0218	-304	55.55	59.11	+0.63	5.08	±0.13	1.93	±0.08	58.55	+0.30	2.16	+0.15	41,409	85,343
KLR-0225	-304	57.15	60.68	+0.63	5.08	±0.13	1.93	±0.08	60.15	+0.30	2.16	+0.15	42,603	87,804
KLR-0231	-304	58.72	62.31	+0.63	5.08	±0.13	1.93	±0.08	61.72	+0.30	2.16	+0.15	43,775	90,223
KLR-0237	-304	60.33	63.93	+0.63	5.08	±0.13	1.93	±0.08	63.32	+0.30	2.16	+0.15	44,969	92,680
KLR-0243	-304	61.90	65.58	+0.63	5.08	±0.13	1.93	±0.08	64.90	+0.30	2.16	+0.15	46,140	95,099
KLR-0250	-304	63.50	67.13	+0.63	5.08	±0.13	1.93	±0.08	66.50	+0.30	2.16	+0.15	47,334	97,556
KLR-0256	-304	65.07	68.71	+0.76	5.08	±0.13	2.41	±0.08	68.07	+0.30	2.64	+0.15	48,510	119,062
KLR-0262	-304	66.68	70.54	+0.76	5.08	±0.13	2.41	±0.08	69.67	+0.30	2.64	+0.15	49,699	121,990
KLR-0268	-304	68.25	71.83	+0.76	5.08	±0.13	2.41	±0.08	71.25	+0.30	2.64	+0.15	50,875	124,868
KLR-0275	-304	69.85	73.63	+0.76	5.08	±0.13	2.41	±0.08	72.85	+0.30	2.64	+0.15	52,069	127,796
KLR-0281	-304	71.42	75.13	+0.76	5.08	±0.13	2.41	±0.08	74.42	+0.30	2.64	+0.15	53,241	130,679
KLR-0287	-304	73.03	76.76	+0.76	5.08	±0.13	2.41	±0.08	76.02	+0.30	2.64	+0.15	54,435	133,608
KLR-0293	-304	74.60	78.33	+0.76	5.08	±0.13	2.41	±0.08	77.60	+0.30	2.64	+0.15	55,610	136,486
KLR-0300	-304	76.20	79.88	+0.76	5.08	±0.13	2.41	±0.08	79.20	+0.30	2.64	+0.15	56,800	139,414
KLR-0306	-304	77.77	81.74	+0.76	5.08	±0.13	2.41	±0.08	80.87	+0.33	2.64	+0.15	59,942	142,297
KLR-0312	-304	79.38	83.67	+0.76	6.02	±0.13	2.41	±0.08	82.88	+0.33	2.64	+0.15	69,199	145,226
KLR-0318	-304	80.95	85.27	+0.76	6.02	±0.13	2.41	±0.08	84.46	+0.33	2.64	+0.15	70,570	148,104
KLR-0325	-304	82.55	86.87	+0.76	6.02	±0.13	2.41	±0.08	86.06	+0.33	2.64	+0.15	71,964	151,032

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel.

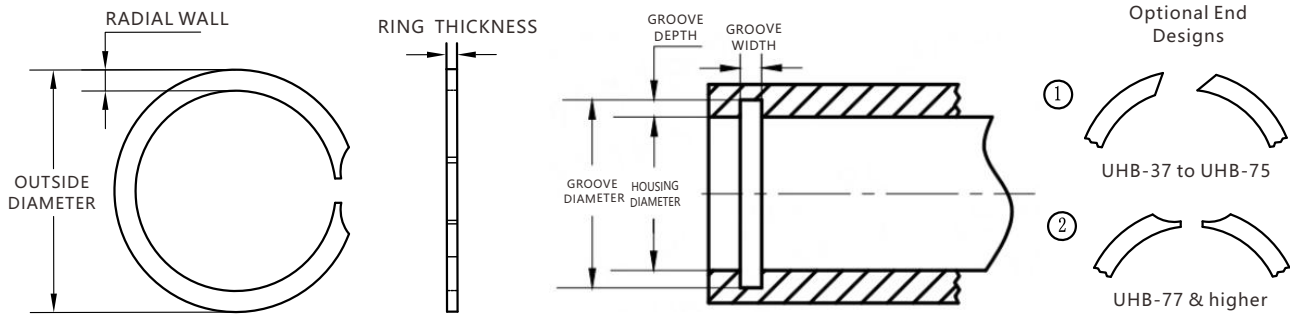
Constant Section Retaining Rings For Bore



Lispring Part Number ¹		Housing Diameter (mm)	Ring						Groove				Thrust Capacity	
Carbon Steel	304 SS Add Suffix		Outside Diameter (mm)		Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)
KLR-0331	-304	84.12	88.47	+0.89	6.30	±0.13	2.92	±0.08	87.63	+0.33	3.15	+0.18	73,339	176,842
KLR-0337	-304	85.73	90.09	+0.89	6.30	±0.13	2.92	±0.08	89.23	+0.33	3.15	+0.18	74,733	180,206
KLR-0343	-304	87.30	91.67	+0.89	6.30	±0.13	2.92	±0.08	90.81	+0.33	3.15	+0.18	76,104	183,516
KLR-0350	-304	88.90	93.29	+0.89	6.30	±0.13	2.92	±0.08	92.41	+0.33	3.15	+0.18	77,502	186,880
KLR-0356	-304	90.47	94.69	+0.89	6.30	±0.13	2.92	±0.08	93.98	+0.33	3.15	+0.18	78,873	190,190
KLR-0362	-304	92.08	96.49	+0.89	6.30	±0.13	2.92	±0.08	95.58	+0.33	3.15	+0.18	80,267	193,554
KLR-0368	-304	93.65	98.09	+0.89	6.30	±0.13	2.92	±0.08	97.16	+0.33	3.15	+0.18	81,643	196,863
KLR-0375	-304	95.25	99.62	+0.89	6.30	±0.13	2.92	±0.08	98.76	+0.33	3.15	+0.18	83,037	200,228
KLR-0381	-304	96.82	101.30	+0.89	6.30	±0.13	2.92	±0.08	100.33	+0.33	3.15	+0.18	84,408	203,537
KLR-0387	-304	98.43	102.72	+0.89	6.30	±0.13	2.92	±0.08	101.93	+0.33	3.15	+0.18	85,806	206,901
KLR-0393	-304	100.00	104.50	+0.89	6.30	±0.13	2.92	±0.08	103.51	+0.33	3.15	+0.18	87,177	210,211
KLR-0400	-304	101.60	107.26	+1.27	6.73	±0.13	3.89	±0.10	105.61	+0.53	4.14	+0.18	101,410	273,685
KLR-0412	-304	104.78	109.96	+1.27	6.73	±0.13	3.89	±0.10	108.79	+0.53	4.14	+0.18	104,579	282,234
KLR-0425	-304	107.95	113.08	+1.27	6.73	±0.13	3.89	±0.10	111.96	+0.53	4.14	+0.18	107,748	290,787
KLR-0437	-304	111.13	116.23	+1.27	6.73	±0.13	3.89	±0.10	115.14	+0.53	4.14	+0.18	110,917	299,340
KLR-0450	-304	114.30	119.46	+1.27	6.73	±0.13	3.89	±0.10	118.31	+0.53	4.14	+0.18	114,086	307,894
KLR-0462	-304	117.48	122.66	+1.27	6.73	±0.13	3.89	±0.10	121.49	+0.61	4.14	+0.18	117,255	316,447
KLR-0475	-304	120.65	125.60	+1.27	6.73	±0.13	3.89	±0.10	124.66	+0.61	4.14	+0.18	120,424	324,996
KLR-0487	-304	123.83	129.08	+1.27	6.73	±0.13	3.89	±0.10	127.84	+0.61	4.14	+0.18	123,592	333,549
KLR-0500	-304	127.00	132.26	+1.27	6.73	±0.13	3.89	±0.10	131.01	+0.61	4.14	+0.18	126,761	342,103
KLR-0525	-304	133.35	138.68	+1.27	6.73	±0.13	3.89	±0.10	137.36	+0.61	4.14	+0.18	133,099	359,209
KLR-0550	-304	139.70	145.26	+1.27	6.73	±0.13	3.89	±0.10	143.71	+0.61	4.14	+0.18	139,437	376,312
KLR-0575	-304	146.05	151.51	+1.27	6.73	±0.13	3.89	±0.10	150.06	+0.61	4.14	+0.18	145,775	393,418
KLR-0600	-304	152.40	158.90	+1.40	8.03	±0.15	3.89	±0.10	157.38	+0.61	4.14	+0.18	188,696	410,525
KLR-0625	-304	158.75	165.30	+1.40	8.03	±0.15	3.89	±0.10	163.73	+0.61	4.14	+0.18	196,559	427,627
KLR-0650	-304	165.10	171.70	+1.40	8.03	±0.15	3.89	±0.10	170.08	+0.61	4.14	+0.18	204,423	444,734
KLR-0675	-304	171.45	178.13	+1.40	8.03	±0.15	3.89	±0.10	176.43	+0.61	4.14	+0.18	212,286	461,841
KLR-0700	-304	177.80	184.56	+1.40	8.03	±0.15	3.89	±0.10	182.78	+0.71	4.14	+0.18	220,145	478,943
KLR-0725	-304	184.15	191.54	+1.78	8.03	±0.15	3.89	±0.10	189.13	+0.71	4.14	+0.18	228,008	496,049
KLR-0750	-304	190.50	197.15	+1.78	8.03	±0.15	3.89	±0.10	195.48	+0.71	4.14	+0.18	235,871	513,156
KLR-0775	-304	196.85	203.78	+1.78	8.03	±0.15	3.89	±0.10	201.83	+0.71	4.14	+0.18	243,734	530,258
KLR-0800	-304	203.20	210.21	+1.78	8.03	±0.15	3.89	±0.10	208.18	+0.71	4.14	+0.18	251,598	547,365
KLR-0825	-304	209.55	217.93	+1.78	9.48	±0.15	4.87	±0.13	215.54	+0.71	5.16	+0.18	312,411	669,191
KLR-0850	-304	215.90	224.05	+1.78	9.48	±0.15	4.87	±0.13	221.89	+0.71	5.16	+0.18	321,877	689,472
KLR-0875	-304	222.25	230.45	+1.78	9.48	±0.15	4.87	±0.13	228.24	+0.71	5.16	+0.18	331,343	709,747
KLR-0900	-304	228.60	236.88	+1.78	9.48	±0.15	4.87	±0.13	234.59	+0.71	5.16	+0.18	340,809	730,027
KLR-0925	-304	234.95	243.33	+1.78	9.48	±0.15	4.87	±0.13	240.94	+0.71	5.16	+0.18	350,279	750,303
KLR-0950	-304	241.30	249.71	+1.78	9.48	±0.15	4.87	±0.13	247.29	+0.71	5.16	+0.18	359,745	770,583
KLR-0975	-304	247.65	256.11	+1.78	9.48	±0.15	4.87	±0.13	253.64	+0.79	5.16	+0.18	369,211	790,863
KLR-1000	-304	254.00	264.52	+1.78	11.05	±0.18	4.88	±0.13	261.98	+0.79	5.16	+0.18	503,836	811,139
KLR-1025	-304	260.35	270.76	+1.78	11.05	±0.18	4.88	±0.13	268.33	+0.79	5.16	+0.18	516,430	831,419
KLR-1050	-304	266.70	277.34	+1.78	11.05	±0.18	4.88	±0.13	274.68	+0.79	5.16	+0.18	529,028	851,699
KLR-1075	-304	273.05	283.74	+1.78	11.05	±0.18	4.88	±0.13	281.03	+0.79	5.16	+0.18	541,622	871,975
KLR-1100	-304	279.40	290.58	+3.05	11.05	±0.18	4.88	±0.13	287.38	+0.79	5.16	+0.18	554,216	892,255

¹Suffix -304 appended to the part number denotes material as Grade 304 stainless steel.

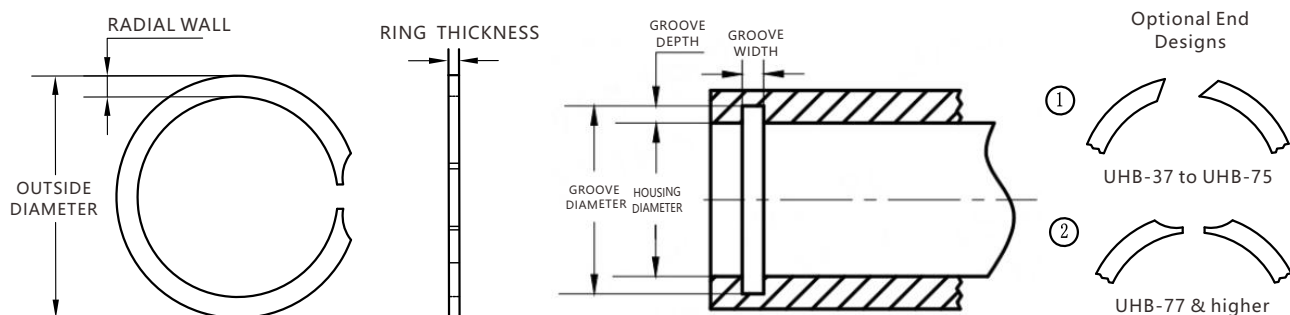
Constant Section Retaining Rings For Bore



Lispring Part Number ¹		Housing Diameter (mm)	Ring						Groove				Thrust Capacity	
Carbon Steel	304 SS		Outside Diameter (mm)		Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)
	Add Suffix													
UHB-37	-304	9.53	10.16	+0.51	0.89	±0.08	0.64	±0.05	10.03	±0.08	0.71	+0.08	1,203	5,330
UHB-43	-304	11.13	11.86	+0.51	0.89	±0.08	0.64	±0.05	11.73	±0.08	0.71	+0.08	1,689	6,224
UHB-50	-304	12.70	13.46	+0.64	1.02	±0.08	0.89	±0.05	13.31	±0.08	0.99	+0.08	1,925	9,411
UHB-51	-304	13.00	13.77	+0.64	1.02	±0.08	0.89	±0.05	13.61	±0.08	0.99	+0.08	1,970	9,638
UHB-56	-304	14.27	15.24	+0.64	1.22	±0.08	0.89	±0.05	14.99	±0.08	0.99	+0.08	2,524	10,583
UHB-62	-304	15.88	17.02	+0.64	1.22	±0.08	0.89	±0.05	16.69	±0.08	0.99	+0.08	3,210	11,768
UHB-68	-304	17.48	18.62	+0.64	1.22	±0.08	0.89	±0.05	18.29	±0.08	0.99	+0.08	3,532	12,953
UHB-75	-304	19.05	20.29	+0.64	1.22	±0.08	0.89	±0.05	19.96	±0.08	0.99	+0.08	4,331	14,119
UHB-77	-304	19.74	21.01	+0.64	1.57	±0.08	1.07	±0.05	20.65	±0.08	1.17	+0.08	4,490	17,733
UHB-81	-304	20.62	22.02	+0.64	1.57	±0.08	1.07	±0.05	21.64	±0.08	1.17	+0.08	5,212	18,532
UHB-87	-304	22.23	23.72	+0.79	1.57	±0.08	1.07	±0.05	23.34	±0.08	1.17	+0.08	6,179	19,967
UHB-90	-304	22.89	24.41	+0.79	1.98	±0.08	1.07	±0.05	24.00	±0.08	1.17	+0.08	6,361	20,562
UHB-93	-304	23.83	25.48	+0.79	1.98	±0.08	1.07	±0.05	25.04	±0.08	1.17	+0.08	7,223	21,406
UHB-100	-304	25.40	27.18	+0.79	1.98	±0.08	1.07	±0.05	26.72	±0.08	1.17	+0.08	7,700	22,823
UHB-102	-304	25.98	27.79	+0.79	2.36	±0.08	1.07	±0.05	27.31	±0.13	1.17	+0.08	8,535	23,345
UHB-106	-304	26.97	28.80	+0.79	2.36	±0.08	1.27	±0.05	28.30	±0.13	1.42	+0.08	8,862	28,475
UHB-112	-304	28.58	30.53	+0.79	2.36	±0.08	1.27	±0.05	30.00	±0.13	1.42	+0.08	10,111	30,164
UHB-118	-304	30.18	32.26	+0.79	2.36	±0.08	1.27	±0.05	31.70	±0.13	1.42	+0.08	11,436	31,857
UHB-125	-304	31.75	33.96	+0.79	2.77	±0.08	1.27	±0.05	33.38	±0.13	1.42	+0.08	12,835	33,519
UHB-131	-304	33.32	35.66	+0.79	2.77	±0.08	1.27	±0.05	35.05	±0.13	1.42	+0.08	14,315	35,180
UHB-137	-304	34.93	37.39	+0.79	2.77	±0.08	1.27	±0.05	36.75	±0.13	1.42	+0.08	15,885	36,869
UHB-143	-304	36.53	38.99	+0.79	3.18	±0.13	1.27	±0.05	38.35	±0.13	1.42	+0.08	16,612	38,558
UHB-145	-304	36.98	39.55	+0.79	3.18	±0.13	1.27	±0.05	38.91	±0.13	1.42	+0.08	17,756	39,039
UHB-150	-304	38.10	40.82	+0.79	3.18	±0.13	1.27	±0.05	40.03	±0.13	1.42	+0.08	18,292	40,220
UHB-156	-304	39.67	42.37	+1.17	3.18	±0.13	1.57	±0.05	41.71	±0.13	1.73	+0.10	20,049	49,949
UHB-162	-304	41.28	44.09	+1.17	3.58	±0.13	1.57	±0.05	43.41	±0.13	1.73	+0.10	21,901	51,965
UHB-165	-304	41.99	44.83	+1.17	3.58	±0.13	1.57	±0.05	44.12	±0.13	1.73	+0.10	22,278	52,859
UHB-168	-304	42.88	45.82	+1.17	3.96	±0.13	1.57	±0.05	45.11	±0.13	1.73	+0.10	23,835	53,976
UHB-175	-304	44.45	47.50	+1.17	3.96	±0.13	1.57	±0.05	46.79	±0.13	1.73	+0.10	25,833	55,960
UHB-181	-304	46.02	49.10	+1.17	3.96	±0.13	1.57	±0.05	48.36	±0.13	1.73	+0.10	26,750	57,944
UHB-185	-304	46.99	50.17	+1.17	3.96	±0.13	1.57	±0.05	49.43	±0.13	1.73	+0.10	28,498	59,156
UHB-187	-304	47.63	50.80	+1.17	3.96	±0.13	1.57	±0.05	50.06	±0.13	1.73	+0.10	28,883	59,955
UHB-193	-304	49.23	52.53	+1.17	3.96	±0.13	1.57	±0.05	51.77	±0.13	1.73	+0.10	31,094	61,971
UHB-196	-304	49.99	53.29	+1.17	3.96	±0.13	1.57	±0.05	52.53	±0.13	1.73	+0.10	31,576	62,933
UHB-200	-304	50.80	54.13	+1.17	3.96	±0.13	1.57	±0.05	53.34	±0.13	1.73	+0.10	32,093	63,955
UHB-206	-304	52.37	55.80	+1.17	3.96	±0.13	1.98	±0.05	55.02	±0.15	2.18	+0.13	34,409	79,409
UHB-212	-304	53.98	57.40	+1.17	3.96	±0.13	1.98	±0.05	56.62	±0.15	2.18	+0.13	35,462	81,834
UHB-218	-304	55.58	59.21	+1.17	4.34	±0.13	1.98	±0.05	58.32	±0.15	2.18	+0.13	37,918	84,258
UHB-225	-304	57.15	60.78	+1.17	4.34	±0.13	1.98	±0.05	59.89	±0.15	2.18	+0.13	38,990	86,646
UHB-231	-304	58.72	62.46	+1.17	4.34	±0.13	1.98	±0.05	61.57	±0.15	2.18	+0.13	41,550	89,034
UHB-237	-304	60.33	64.08	+1.17	4.34	±0.13	1.98	±0.05	63.17	±0.15	2.18	+0.13	42,681	91,458
UHB-244	-304	61.98	65.84	+1.17	4.75	±0.13	1.98	±0.05	64.92	±0.15	2.18	+0.13	45,414	93,964
UHB-250	-304	63.50	67.39	+1.17	4.75	±0.13	1.98	±0.05	66.45	±0.15	2.18	+0.13	46,530	96,275
UHB-253	-304	64.29	68.28	+1.17	4.75	±0.13	1.98	±0.05	67.34	±0.15	2.18	+0.13	48,732	97,469
UHB-256	-304	65.07	69.24	+1.17	4.75	±0.13	2.36	±0.05	68.22	±0.15	2.62	+0.13	50,975	118,394
UHB-262	-304	66.68	70.87	+1.17	4.75	±0.13	2.36	±0.05	69.85	±0.15	2.62	+0.13	52,228	121,304
UHB-268	-304	68.28	72.54	+1.17	4.75	±0.13	2.36	±0.05	71.53	±0.15	2.62	+0.13	53,481	124,219
UHB-271	-304	69.01	73.20	+1.17	4.75	±0.13	2.36	±0.05	72.19	±0.15	2.62	+0.13	55,801	125,558

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel.

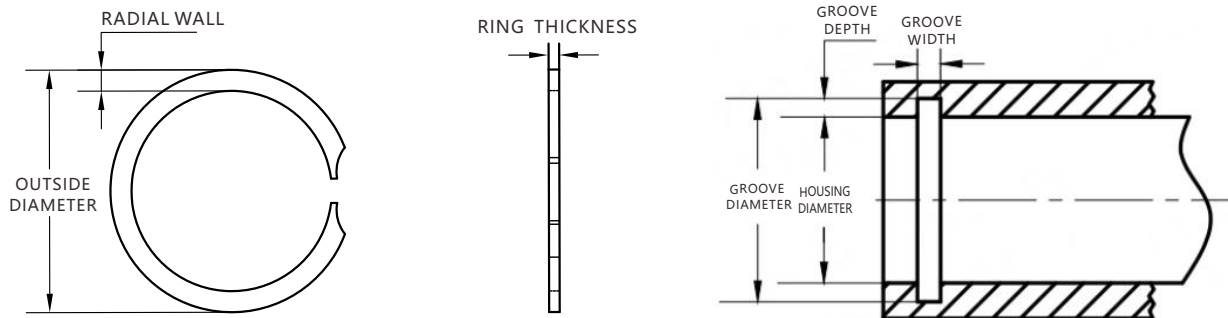
Constant Section Retaining Rings For Bore



Lispring Part Number ¹		Housing Diameter (mm)	Ring						Groove				Thrust Capacity	
Carbon Steel	304 SS		Outside Diameter (mm)		Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)
	Add Suffix													
UHB-275	-304	69.85	74.12	+1.57	4.75	±0.13	2.36	±0.05	73.10	±0.15	2.62	±0.13	56,482	127,084
UHB-281	-304	71.45	75.82	+1.57	4.75	±0.13	2.36	±0.05	74.80	±0.15	2.62	±0.13	59,578	129,994
UHB-283	-304	71.98	76.35	+1.57	4.75	±0.13	2.36	±0.05	75.34	±0.15	2.62	±0.13	60,023	130,965
UHB-287	-304	73.03	77.62	+1.57	4.75	±0.13	2.36	±0.05	76.48	±0.15	2.62	±0.13	62,738	132,859
UHB-300	-304	76.20	80.80	+1.57	4.75	±0.13	2.36	±0.05	79.65	±0.15	2.62	±0.13	65,467	138,633
UHB-306	-304	77.77	82.47	+1.57	5.54	±0.13	2.77	±0.05	81.33	±0.15	3.05	±0.13	68,786	158,941
UHB-312	-304	79.38	84.10	+1.57	5.54	±0.13	2.77	±0.05	82.93	±0.15	3.05	±0.13	70,202	162,210
UHB-315	-304	80.16	84.89	+1.57	5.54	±0.13	2.77	±0.05	83.72	±0.15	3.05	±0.13	70,897	163,821
UHB-325	-304	82.55	87.43	+1.57	5.54	±0.13	2.77	±0.05	86.21	±0.15	3.05	±0.13	75,092	168,697
UHB-334	-304	84.99	89.89	+1.57	5.54	±0.13	2.77	±0.05	88.65	±0.15	3.05	±0.13	77,312	173,682
UHB-346	-304	88.11	93.04	+1.57	5.54	±0.13	2.77	±0.05	91.77	±0.15	3.05	±0.13	80,154	180,065
UHB-350	-304	88.90	93.98	+1.98	6.35	±0.13	2.77	±0.05	92.66	±0.15	3.05	±0.13	83,118	181,677
UHB-354	-304	89.99	95.12	+1.98	6.35	±0.13	2.77	±0.05	93.75	±0.15	3.05	±0.13	84,140	183,906
UHB-356	-304	90.47	95.66	+1.98	6.35	±0.13	2.77	±0.05	94.23	±0.15	3.05	±0.13	84,589	184,892
UHB-362	-304	92.08	97.31	+1.98	6.35	±0.13	2.77	±0.05	95.83	±0.15	3.05	±0.13	86,083	188,165
UHB-375	-304	95.25	100.63	+1.98	6.35	±0.13	2.77	±0.05	99.11	±0.15	3.05	±0.13	91,458	194,653
UHB-387	-304	98.43	103.86	+1.98	6.35	±0.13	2.77	±0.05	102.29	±0.15	3.05	±0.13	94,509	201,140
UHB-393	-304	100.03	105.56	+1.98	6.35	±0.13	2.77	±0.05	103.99	±0.15	3.05	±0.13	98,572	204,409
UHB-400	-304	101.60	107.21	+2.36	6.35	±0.13	2.77	±0.05	105.56	±0.15	3.05	±0.13	100,125	207,628
UHB-412	-304	104.78	110.62	+2.36	6.35	±0.13	2.77	±0.05	108.84	±0.15	3.05	±0.13	105,900	214,115
UHB-425	-304	107.95	113.92	+2.36	6.35	±0.13	2.77	±0.05	112.01	±0.15	3.05	±0.13	109,110	220,608
UHB-433	-304	109.98	115.95	+2.36	6.35	±0.13	2.77	±0.05	114.05	±0.15	3.05	±0.13	111,166	224,757
UHB-443	-304	112.67	118.62	+2.36	6.35	±0.13	2.77	±0.05	116.74	±0.15	3.05	±0.13	113,886	230,260
UHB-450	-304	114.30	120.50	+2.36	6.35	±0.13	2.77	±0.05	118.47	±0.15	3.05	±0.13	118,417	233,583
UHB-462	-304	117.48	123.83	+2.36	6.35	±0.13	2.77	±0.05	121.79	±0.15	3.05	±0.13	126,158	240,071
UHB-475	-304	120.65	127.28	+2.36	7.14	±0.13	2.77	±0.05	125.12	±0.15	3.05	±0.13	134,143	246,558
UHB-500	-304	127.00	133.73	+2.36	7.14	±0.13	2.77	±0.05	131.57	±0.15	3.05	±0.13	144,413	259,538
UHB-525	-304	133.35	140.46	+3.18	7.92	±0.13	3.18	±0.05	138.05	±0.18	3.53	±0.15	155,000	298,423
UHB-537	-304	136.53	143.76	+3.18	7.92	±0.13	3.18	±0.05	141.35	±0.18	3.53	±0.15	163,867	305,528
UHB-550	-304	139.70	147.22	+3.18	7.92	±0.13	3.18	±0.05	144.68	±0.18	3.53	±0.15	172,974	312,633
UHB-575	-304	146.05	153.67	+3.18	7.92	±0.13	3.18	±0.05	151.13	±0.18	3.53	±0.15	184,524	326,844
UHB-600	-304	152.40	160.25	+3.18	7.92	±0.13	3.18	±0.05	157.58	±0.18	3.53	±0.15	196,400	341,054
UHB-625	-304	158.75	166.83	+3.18	8.71	±0.13	3.96	±0.05	164.03	±0.20	4.42	±0.15	208,595	427,350
UHB-650	-304	165.10	173.53	+3.96	8.71	±0.13	3.96	±0.05	170.48	±0.20	4.42	±0.15	221,112	444,443
UHB-662	-304	168.28	177.17	+3.96	8.71	±0.13	3.96	±0.05	173.86	±0.20	4.42	±0.15	233,864	452,992
UHB-675	-304	171.45	180.34	+3.96	8.71	±0.13	3.96	±0.05	177.04	±0.20	4.42	±0.15	238,277	461,536
UHB-700	-304	177.80	186.69	+3.96	8.71	±0.13	3.96	±0.05	183.39	±0.20	4.42	±0.15	247,103	478,634
UHB-725	-304	184.15	193.80	+4.75	9.53	±0.13	4.75	±0.05	190.50	±0.20	5.31	±0.15	290,828	561,389
UHB-750	-304	190.50	200.41	+4.75	9.53	±0.13	4.75	±0.05	196.85	±0.20	5.31	±0.15	300,857	580,748
UHB-800	-304	203.20	213.36	+4.75	9.53	±0.13	4.75	±0.05	209.55	±0.20	5.31	±0.15	320,914	619,465
UHB-825	-304	209.55	220.09	+4.75	11.10	±0.13	4.75	±0.05	216.92	±0.20	5.31	±0.15	383,893	642,310
UHB-850	-304	215.90	226.44	+4.75	11.10	±0.13	4.75	±0.05	223.27	±0.20	5.31	±0.15	395,525	661,778
UHB-875	-304	222.25	233.81	+4.75	12.70	±0.13	4.75	±0.05	230.63	±0.20	5.31	±0.15	463,321	681,241
UHB-900	-304	228.60	240.16	+4.75	12.70	±0.13	4.75	±0.05	236.98	±0.20	5.31	±0.15	476,555	700,704
UHB-905	-304	230.00	241.53	+4.75	12.70	±0.13	4.75	±0.05	238.35	±0.20	5.31	±0.15	479,469	704,985
UHB-950	-304	241.30	252.86	+4.75	12.70	±0.13	4.75	±0.05	249.68	±0.20	5.31	±0.15	503,032	739,634
UHB-984	-304	249.94	261.49	+4.75	12.70	±0.13	4.75	±0.05	258.32	±0.20	5.31	±0.15	521,038	766,102
UHB-1000	-304	254.00	265.56	+4.75	12.70	±0.13	4.75	±0.05	262.38	±0.20	5.31	±0.15	529,509	778,560

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel.

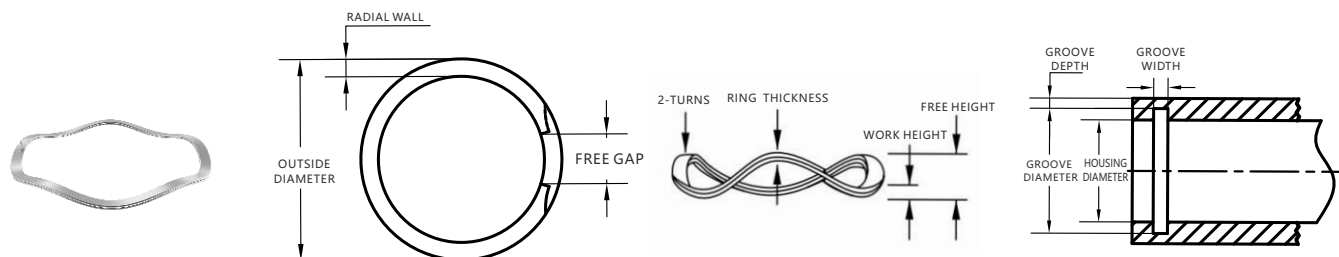
Constant Section Retaining Rings For Bore



Lispring Part Number ¹		Housing Diameter (mm)	Ring						Groove			Thrust Capacity	
Carbon Steel	304 SS Add Suffix		Outside Diameter (mm)		Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)	Groove Yield (N)	Ring Shear (N)
HN-112	-304	28.58	30.38	+0.79	2.36	±0.08	1.07	±0.05	30.00	±0.13	1.17	10,111	25,674
HN-125	-304	31.75	33.78	+0.79	2.36	±0.08	1.07	±0.05	33.27	±0.13	1.17	12,036	28,525
HN-137	-304	34.93	37.08	+0.79	2.36	±0.08	1.07	±0.05	36.45	±0.13	1.17	13,239	31,380
HN-150	-304	38.10	40.64	+0.79	3.18	±0.13	1.07	±0.05	40.13	±0.13	1.17	19,254	34,232
HN-162	-304	41.28	43.82	+1.57	3.18	±0.13	1.07	±0.05	43.31	±0.13	1.17	20,861	37,083
HN-175	-304	44.45	47.12	+1.57	3.18	±0.13	1.07	±0.05	46.48	±0.13	1.17	22,464	39,934
HN-187	-304	47.63	50.55	+1.57	3.96	±0.13	1.07	±0.05	49.91	±0.13	1.17	27,077	42,790
HN-200	-304	50.80	53.72	+1.57	3.96	±0.13	1.07	±0.05	53.09	±0.13	1.17	28,883	45,641
HN-206	-304	52.37	55.30	+1.57	3.96	±0.13	1.07	±0.05	54.66	±0.15	1.17	29,778	47,057
HN-218	-304	55.55	58.47	+1.57	3.96	±0.13	1.07	±0.05	57.84	±0.15	1.17	31,585	49,908
HN-231	-304	58.72	61.77	+1.57	3.96	±0.13	1.07	±0.05	61.01	±0.15	1.17	33,387	52,759
HN-243	-304	61.90	64.95	+1.57	3.96	±0.13	1.07	±0.05	64.19	±0.15	1.17	35,194	55,615
HN-256	-304	65.07	68.12	+1.57	3.96	±0.13	1.07	±0.05	67.36	±0.15	1.17	36,996	58,466
HN-300	-304	76.20	80.11	+1.98	4.75	±0.13	1.57	±0.05	79.35	±0.15	1.73	59,692	95,930
HN-325	-304	82.55	86.46	+1.98	4.75	±0.13	1.57	±0.05	85.70	±0.15	1.73	64,663	103,925
HN-350	-304	88.90	92.81	+1.98	4.75	±0.13	1.57	±0.05	92.05	±0.15	1.73	69,639	111,920
HN-375	-304	95.25	99.16	+1.98	4.75	±0.13	1.57	±0.05	98.40	±0.15	1.73	74,610	119,915
HN-400	-304	101.60	105.54	+1.98	4.75	±0.13	1.57	±0.05	104.78	±0.15	1.73	80,226	127,910
HN-425	-304	107.95	112.50	+2.36	5.54	±0.13	1.98	±0.05	111.61	±0.15	2.18	98,200	163,667
HN-450	-304	114.30	118.85	+2.36	5.54	±0.13	1.98	±0.05	117.96	±0.15	2.18	103,975	173,292
HN-475	-304	120.65	125.20	+2.36	5.54	±0.13	1.98	±0.05	124.31	±0.15	2.18	109,755	182,921
HN-500	-304	127.00	131.67	+2.36	5.54	±0.13	1.98	±0.05	130.66	±0.15	2.18	115,529	192,550
HN-525	-304	133.35	138.02	+2.36	5.54	±0.13	1.98	±0.05	137.01	±0.18	2.18	121,304	202,175
HN-575	-304	146.05	150.72	+2.36	5.54	±0.13	1.98	±0.05	149.71	±0.18	2.18	132,859	221,429
HN-600	-304	152.40	157.99	+3.18	6.35	±0.13	2.36	±0.05	156.46	±0.18	2.62	154,038	277,271
HN-650	-304	165.10	170.94	+3.18	6.35	±0.13	2.36	±0.05	169.16	±0.20	2.62	166,877	300,375
HN-700	-304	177.80	183.90	+3.18	6.35	±0.13	2.36	±0.05	181.86	±0.20	2.62	179,711	323,480
HN-725	-304	184.15	190.50	+4.75	6.35	±0.13	2.36	±0.05	188.21	±0.20	2.62	186,131	335,034
HN-750	-304	190.50	197.10	+4.75	6.35	±0.13	2.36	±0.05	194.56	±0.20	2.62	192,550	346,588
HN-800	-304	203.20	210.44	+4.75	6.35	±0.13	2.36	±0.05	207.26	±0.20	2.62	205,385	369,692

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel.

Wave Spiral Retaining Rings For Bore



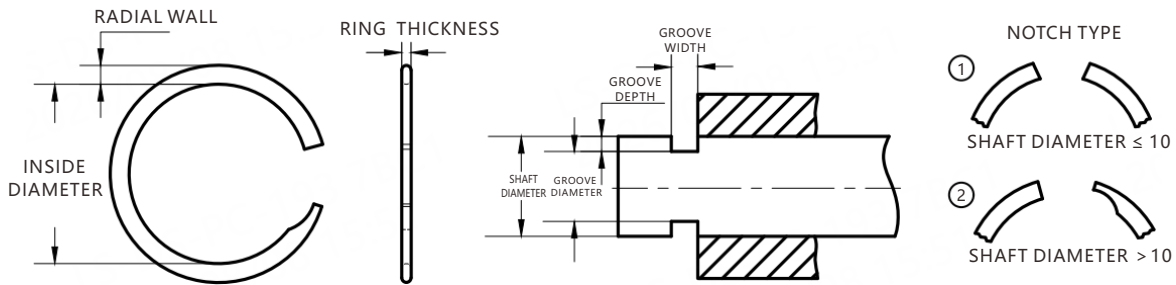
Product Dimensions: All dimensions in millimeters unless otherwise specified.

Lispring Part Number ¹		Groove Diameter	Groove Width	Shaft Diameter	Load	Work Height	Free ² Height	Number of Waves	Thickness	Radial Wall	Offset (Yes/No)
Carbon Steel	17-7PH Add Suffix	mm	mm	mm	N	mm	mm		mm	mm	
WKW-75	-S17	20.22	3.02	19.05	111.25	2.03	2.90	3	0.89	1.65	No
WKW-87	-S17	23.65	2.92	22.23	133.50	2.16	2.79	3	1.07	2.16	No
WKW-100	-S17	27.08	3.18	25.40	151.30	2.16	3.05	3	1.07	2.16	No
WKW-112	-S17	30.40	3.30	28.58	169.10	2.54	3.18	3	1.27	3.25	No
WKW-125	-S17	33.78	3.56	31.75	178.00	2.54	3.43	3	1.27	3.25	No
WKW-137	-S17	37.11	3.30	34.93	200.25	2.54	3.18	4	1.27	3.25	No
WKW-150	-S17	40.49	3.56	38.10	222.50	2.54	3.43	4	1.27	3.25	No
WKW-162	-S17	43.82	3.56	41.28	244.75	2.79	3.43	4	1.57	4.01	No
WKW-175	-S17	47.19	3.68	44.45	267.00	2.79	3.56	4	1.57	4.01	No
WKW-187	-S17	50.52	3.71	47.63	280.35	2.79	3.58	4	1.57	4.01	No
WKW-200	-S17	53.90	3.94	50.80	289.25	2.79	3.81	4	1.57	4.01	No
WKW-212	-S17	57.18	4.45	53.98	311.50	3.30	4.32	4	1.98	4.78	No
WKW-225	-S17	60.50	4.57	57.15	333.75	3.30	4.45	4	1.98	4.78	No
WKW-237	-S17	63.93	4.70	60.33	356.00	3.30	4.57	4	1.98	4.78	No
WKW-250	-S17	67.26	4.78	63.50	373.80	3.30	4.65	4	1.98	4.78	No
WKW-262	-S17	70.64	5.72	66.68	391.60	4.32	5.59	4	2.36	5.72	No
WKW-275	-S17	74.02	5.94	69.85	418.30	4.32	5.82	4	2.36	5.72	No
WKW-287	-S17	77.50	5.84	73.03	431.65	4.32	5.72	4	2.36	5.72	No
WKW-300	-S17	80.82	5.97	76.20	445.00	4.32	5.84	4	2.36	5.72	No
WKW-312	-S17	84.20	6.48	79.38	458.35	4.70	6.35	4	2.82	7.14	Yes
WKW-325	-S17	87.53	6.48	82.55	471.70	4.70	6.35	4	2.82	7.14	Yes
WKW-350	-S17	94.23	6.35	88.90	511.75	4.70	6.22	4	2.82	7.14	Yes
WKW-362	-S17	97.56	6.35	92.08	520.65	4.70	6.35	4	2.82	7.14	Yes
WKW-375	-S17	100.94	6.60	95.25	538.45	4.70	6.48	4	2.82	7.92	Yes
WKW-387	-S17	104.32	6.73	98.43	560.70	4.70	6.60	4	2.82	7.92	Yes
WKW-400	-S17	107.70	6.60	101.60	578.50	4.70	6.48	4	2.82	7.92	Yes
WKW-412	-S17	110.87	6.68	104.78	596.30	4.70	6.55	4	2.82	7.92	Yes
WKW-425	-S17	114.05	6.83	107.95	623.00	4.70	6.71	4	2.82	7.92	Yes
WKW-450	-S17	120.40	6.48	114.30	667.50	4.70	6.35	5	2.82	7.92	Yes
WKW-475	-S17	126.87	6.53	120.65	712.00	4.70	6.40	5	2.82	7.92	Yes
WKW-500	-S17	133.60	6.40	127.00	756.50	4.70	6.27	5	2.82	7.92	Yes

¹Suffix -S17 at the end of part numbers denotes 17-7PH stainless steel material.

²Reference dimension

Single Turn Spiral Retaining Rings for Shaft



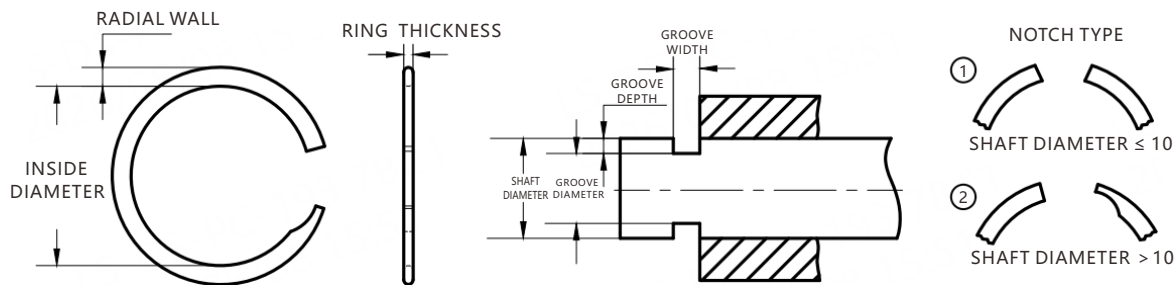
Lispring Part Number ¹			Shaft Diameter (mm)	Ring					Groove				Thrust Capacity		
Carbon Steel	304 SS	316 SS		Inside Diameter (mm)	Radial Wall (mm)	Thickness (mm)		Diameter (mm)	Width (mm)		Groove Yield (N)	Ring Shear (N)			
	Add Suffix	Add Suffix													
VZM-2 ^{2,3}	-304	-316	2.00	1.90	-0.10	0.25	±0.05	0.14	±0.04	1.90	±0.05	0.30	±0.05	48	223
VZM-3 ^{2,3}	-304	-316	3.00	2.80	-0.10	0.46	±0.05	0.19	±0.04	2.80	±0.05	0.30	±0.05	146	463
VZM-4 ^{2,3}	-304	-316	4.00	3.80	-0.20	0.51	±0.10	0.30	±0.04	3.80	±0.05	0.38	±0.05	292	995
VZM-5 ^{2,3}	-304	-316	5.00	4.70	-0.25	0.51	±0.10	0.30	±0.04	4.70	±0.05	0.38	±0.05	365	1,244
VZM-6 ^{2,3}	-304	-316	6.00	5.65	-0.25	0.51	±0.10	0.30	±0.04	5.70	±0.05	0.38	±0.05	439	1,988
VZ-25 ^{2,3}	-304	-316	6.35	5.99	-0.25	0.51	±0.10	0.30	±0.04	6.05	±0.05	0.38	±0.05	471	2,138
VZM-7 ^{2,3}	-304	-316	7.00	6.58	-0.25	0.51	±0.10	0.30	±0.04	6.64	±0.05	0.38	±0.05	614	2,234
VZ-31 ^{2,3}	-304	-316	7.92	7.47	-0.25	0.64	±0.10	0.38	±0.04	7.54	±0.05	0.46	±0.05	733	3,334
VZM-8 ^{2,3}	-304	-316	8.00	7.52	-0.25	0.64	±0.10	0.38	±0.04	7.60	±0.05	0.46	±0.05	780	3,183
VZM-9 ^{2,3}	-304	-316	9.00	8.42	-0.25	0.76	±0.10	0.38	±0.04	8.50	±0.05	0.46	±0.05	1,114	3,580
VZ-37 ^{2,3}	-304	-316	9.53	8.84	-0.25	0.64	±0.10	0.38	±0.04	8.92	±0.05	0.46	±0.05	1,414	4,005
VZM-10 ^{2,3}	-304	-316	10.00	9.32	-0.30	0.89	±0.10	0.38	±0.04	9.40	±0.05	0.46	±0.05	1,462	3,978
VZM-11 ³	-304	-316	11.00	10.32	-0.30	0.89	±0.10	0.38	±0.04	10.40	±0.05	0.46	±0.05	1,608	4,376
VZ-43 ³	-304	-316	11.10	10.41	-0.30	0.89	±0.10	0.38	±0.04	10.49	±0.05	0.46	±0.05	1,649	4,668
VZM-12	-304	-316	12.00	11.22	-0.33	1.14	±0.10	0.46	±0.04	11.34	±0.05	0.56	±0.05	1,930	5,779
VZ-50	-304	-316	12.70	11.86	-0.35	1.14	±0.10	0.46	±0.04	11.99	±0.05	0.56	±0.05	2,223	5,779
VZM-13	-304	-316	13.00	12.15	-0.33	1.14	±0.10	0.46	±0.04	12.28	±0.05	0.56	±0.05	2,281	6,261
VZM-14	-304	-316	14.00	13.15	-0.33	1.14	±0.10	0.46	±0.04	13.28	±0.05	0.56	±0.05	2,456	6,742
VZ-56	-304	-316	14.27	13.44	-0.35	1.14	±0.10	0.46	±0.04	13.56	±0.05	0.56	±0.05	2,489	6,490
VZM-15	-304	-316	15.00	14.14	-0.33	1.14	±0.10	0.46	±0.04	14.28	±0.05	0.56	±0.05	2,632	7,224
VZ-62	-304	-316	15.88	15.01	-0.35	1.14	±0.10	0.46	±0.04	15.16	±0.05	0.56	±0.05	2,756	7,246
VZM-16	-304	-316	16.00	15.13	-0.33	1.14	±0.10	0.46	±0.04	15.28	±0.05	0.56	±0.05	2,807	7,705
VZM-17	-304	-316	17.00	16.13	-0.33	1.14	±0.10	0.46	±0.04	16.28	±0.05	0.56	±0.05	2,983	8,187
VZ-68	-304	-316	17.45	16.56	-0.35	1.14	±0.10	0.46	±0.04	16.74	±0.05	0.56	±0.05	3,023	7,957
VZM-18	-304	-316	18.00	17.12	-0.33	1.14	±0.10	0.46	±0.04	17.28	±0.05	0.56	±0.05	3,158	8,669
VZM-19	-304	-316	19.00	18.11	-0.33	1.14	±0.10	0.46	±0.04	18.28	±0.05	0.56	±0.05	3,334	9,150
VZ-75	-304	-316	19.05	18.16	-0.35	1.14	±0.10	0.46	±0.04	18.34	±0.05	0.56	±0.05	3,290	8,668
VZM-20	-304	-316	20.00	19.10	-0.33	1.14	±0.10	0.46	±0.04	19.28	±0.08	0.56	±0.05	3,509	9,632
VZ-81	-304	-316	20.62	19.35	-0.35	1.65	±0.10	0.53	±0.04	19.56	±0.08	0.66	±0.05	5,379	10,935
VZM-21	-304	-316	21.00	19.74	-0.33	1.65	±0.10	0.53	±0.04	19.94	±0.08	0.66	±0.05	5,424	11,652
VZM-22	-304	-316	22.00	20.73	-0.33	1.65	±0.10	0.53	±0.04	20.94	±0.08	0.66	±0.05	5,683	12,207
VZ-87	-304	-316	22.23	20.96	-0.35	1.65	±0.10	0.53	±0.04	21.16	±0.08	0.66	±0.05	5,779	11,824
VZ-93	-304	-316	23.80	22.50	-0.35	1.65	±0.10	0.53	±0.04	22.73	±0.08	0.66	±0.05	6,179	12,625
VZM-24	-304	-316	24.00	22.72	-0.33	1.65	±0.10	0.53	±0.04	22.94	±0.08	0.66	±0.05	6,199	13,317
VZM-25	-304	-316	25.00	23.71	-0.33	1.65	±0.10	0.53	±0.04	23.94	±0.08	0.66	±0.05	6,458	13,872
VZ-100	-304	-316	25.40	24.10	-0.35	1.65	±0.10	0.53	±0.04	24.33	±0.08	0.66	±0.05	6,579	13,514
VZM-26	-304	-316	26.00	24.63	-0.38	2.24	±0.10	0.64	±0.04	24.88	±0.08	0.79	±0.08	7,096	15,138
VZ-106	-304	-316	26.97	25.60	-0.40	2.24	±0.10	0.64	±0.04	25.86	±0.10	0.79	±0.05	7,335	15,558
VZM-28	-304	-316	28.00	26.62	-0.38	2.24	±0.10	0.64	±0.04	26.88	±0.10	0.79	±0.08	7,642	16,303
VZ-112	-304	-316	28.58	27.20	-0.40	2.24	±0.10	0.64	±0.04	27.46	±0.10	0.79	±0.05	7,779	16,492
VZM-29	-304	-316	29.00	27.61	-0.38	2.24	±0.10	0.64	±0.04	27.88	±0.10	0.79	±0.08	7,915	16,885
VZM-30	-304	-316	30.00	28.59	-0.38	2.24	±0.10	0.64	±0.04	28.88	±0.10	0.79	±0.08	8,188	17,467
VZ-118	-304	-316	30.15	28.75	-0.40	2.24	±0.10	0.64	±0.04	29.03	±0.10	0.79	±0.05	8,224	17,425
VZ-125	-304	-316	31.75	30.33	-0.40	2.24	±0.10	0.64	±0.04	30.63	±0.10	0.79	±0.05	8,624	18,315
VZM-32	-304	-316	32.00	30.57	-0.38	2.24	±0.10	0.64	±0.04	30.88	±0.10	0.79	±0.08	8,734	18,632
VZ-131	-304	-316	33.32	31.88	-0.40	2.24	±0.10	0.64	±0.04	32.21	±0.10	0.79	±0.05	9,068	19,248
VZM-34	-304	-316	34.00	32.56	-0.38	2.24	±0.10	0.64	±0.04	32.88	±0.10	0.79	±0.08	9,279	19,796
VZ-137	-304	-316	34.93	33.48	-0.40	2.24	±0.10	0.64	±0.04	33.81	±0.10	0.79	±0.05	9,513	20,182

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

² Superscript numeral 2 at the top-right corner of the part number indicates the component is designed without disassembly notches; all unmarked items feature standard disassembly notches as illustrated.

³ Superscript numeral 3 at the top-right corner of the part number signifies square-edge wire construction; all unmarked items adopt flat-edge wire construction.

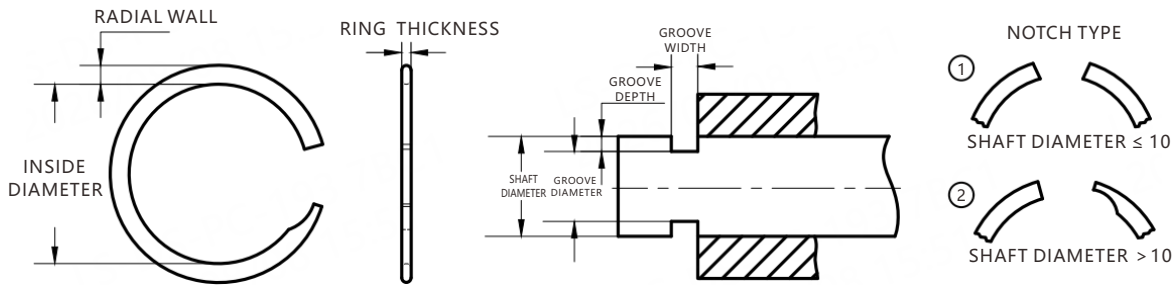
Single Turn Spiral Retaining Rings for Shaft



Lispring Part Number ¹			Shaft Diameter (mm)	Ring					Groove			Thrust Capacity			
Carbon Steel	304 SS	316 SS		Inside Diameter (mm)	Radial Wall (mm)	Thickness (mm)			Diameter (mm)	Width (mm)		Groove Yield (N)	Ring Shear (N)		
	Add Suffix	Add Suffix													
VZM-35	-304	-316	35.00	33.55	-0.38	2.24	±0.10	0.64	±0.04	33.88	±0.10	0.79	±0.08	9,552	20,378
VZM-36	-304	-316	36.00	34.54	-0.38	2.24	±0.10	0.64	±0.04	34.88	±0.10	0.79	±0.08	9,825	20,960
VZ-143	-304	-316	36.50	35.03	-0.40	2.24	±0.10	0.64	±0.04	35.38	±0.10	0.79	±0.05	9,957	21,071
VZM-38	-304	-316	38.00	36.52	-0.38	2.24	±0.10	0.64	±0.04	36.88	±0.10	0.79	±0.08	10,371	22,125
VZ-150	-304	-316	38.10	36.63	-0.40	2.24	±0.10	0.64	±0.04	36.98	±0.10	0.79	±0.05	10,358	22,004
VZ-156	-304	-316	39.67	37.80	-0.50	3.00	±0.10	0.79	±0.05	38.23	±0.13	0.99	±0.08	14,225	28,405
VZM-40	-304	-316	40.00	38.09	-0.51	3.00	±0.10	0.79	±0.05	38.52	±0.13	0.99	±0.08	14,426	28,748
VZ-162	-304	-316	41.28	39.37	-0.50	3.00	±0.10	0.79	±0.05	39.83	±0.13	0.99	±0.08	14,803	29,561
VZM-42	-304	-316	42.00	40.07	-0.51	3.00	±0.10	0.79	±0.05	40.52	±0.13	0.99	±0.08	15,147	30,185
VZ-168	-304	-316	42.85	40.94	-0.50	3.00	±0.10	0.79	±0.05	41.40	±0.13	0.99	±0.08	15,381	30,672
VZ-175	-304	-316	44.45	42.52	-0.50	3.00	±0.10	0.79	±0.05	43.00	±0.13	0.99	±0.08	15,959	31,828
VZM-45	-304	-316	45.00	43.04	-0.51	3.00	±0.10	0.79	±0.05	43.52	±0.13	0.99	±0.08	16,229	32,341
VZ-181	-304	-316	46.02	44.09	-0.50	3.00	±0.10	0.79	±0.05	44.58	±0.13	0.99	±0.08	16,492	32,940
VZ-187	-304	-316	47.63	45.67	-0.50	3.00	±0.10	0.79	±0.05	46.18	±0.13	0.99	±0.08	17,070	34,095
VZM-48	-304	-316	48.00	46.01	-0.51	3.00	±0.10	0.79	±0.05	46.52	±0.13	0.99	±0.08	17,311	34,497
VZ-193	-304	-316	49.20	47.22	-0.50	3.00	±0.10	0.79	±0.05	47.75	±0.13	0.99	±0.08	17,648	35,207
VZM-50	-304	-316	50.00	47.99	-0.51	3.00	±0.10	0.79	±0.05	48.52	±0.13	0.99	±0.08	18,032	35,935
VZ-200	-304	-316	50.80	48.82	-0.50	3.00	±0.10	0.79	±0.05	49.35	±0.13	0.99	±0.08	18,226	36,362
VZM-52	-304	-316	52.00	49.48	-0.64	4.01	±0.10	0.79	±0.05	50.06	±0.15	0.99	±0.08	24,583	37,372
VZ-206	-304	-316	52.37	49.86	-0.65	4.01	±0.10	0.79	±0.05	50.44	±0.15	0.99	±0.08	24,627	37,474
VZ-212	-304	-316	53.98	51.46	-0.65	4.01	±0.10	0.79	±0.05	52.04	±0.15	0.99	±0.08	25,383	38,629
VZM-55	-304	-316	55.00	52.46	-0.64	4.01	±0.10	0.79	±0.05	53.06	±0.15	0.99	±0.08	26,001	39,528
VZ-218	-304	-316	55.55	53.01	-0.65	4.01	±0.10	0.79	±0.05	53.62	±0.15	0.99	±0.08	26,094	39,785
VZM-56	-304	-316	56.00	53.44	-0.64	4.01	±0.10	0.79	±0.05	54.06	±0.15	0.99	±0.08	26,473	40,247
VZ-225	-304	-316	57.15	54.58	-0.65	4.01	±0.10	0.79	±0.05	55.22	±0.15	0.99	±0.08	26,849	40,897
VZM-58	-304	-316	58.00	55.42	-0.64	4.01	±0.10	0.79	±0.05	56.06	±0.15	0.99	±0.08	27,419	41,684
VZ-231	-304	-316	58.72	56.16	-0.65	4.01	±0.10	0.79	±0.05	56.79	±0.15	0.99	±0.08	27,605	42,052
VZM-60	-304	-316	60.00	57.40	-0.64	4.01	±0.10	0.79	±0.05	58.06	±0.15	0.99	±0.08	28,364	43,122
VZ-237	-304	-316	60.33	57.73	-0.65	4.01	±0.10	0.79	±0.05	58.39	±0.15	0.99	±0.08	28,361	43,208
VZ-243	-304	-316	61.90	59.31	-0.65	4.01	±0.10	0.79	±0.05	59.97	±0.15	0.99	±0.08	29,117	44,319
VZM-62	-304	-316	62.00	59.37	-0.64	4.01	±0.10	0.79	±0.05	60.06	±0.15	0.99	±0.08	29,310	44,559
VZM-63	-304	-316	63.00	60.35	-0.64	4.01	±0.10	0.79	±0.05	61.06	±0.15	0.99	±0.08	29,783	45,278
VZ-250	-304	-316	63.50	60.88	-0.65	4.01	±0.10	0.79	±0.05	61.57	±0.15	0.99	±0.08	29,872	45,475
VZM-65	-304	-316	65.00	62.33	-0.64	4.01	±0.10	0.79	±0.05	63.06	±0.15	0.99	±0.08	30,728	46,715
VZ-256	-304	-316	65.07	62.43	-0.65	4.01	±0.10	0.79	±0.05	63.14	±0.15	0.99	±0.08	30,584	46,587
VZ-262	-304	-316	66.68	64.03	-0.65	4.01	±0.10	0.79	±0.05	64.74	±0.15	0.99	±0.08	31,339	47,742
VZM-68	-304	-316	68.00	65.31	-0.64	4.01	±0.10	0.79	±0.05	66.06	±0.15	0.99	±0.08	32,146	48,871
VZ-268	-304	-316	68.25	65.58	-0.65	4.01	±0.10	0.79	±0.05	66.32	±0.15	0.99	±0.08	32,095	48,854
VZ-275	-304	-316	69.85	67.16	-0.65	4.01	±0.10	0.79	±0.05	67.92	±0.15	0.99	±0.08	32,851	50,009
VZM-70	-304	-316	70.00	67.29	-0.64	4.01	±0.10	0.79	±0.05	68.06	±0.15	0.99	±0.08	33,092	50,309
VZ-281	-304	-316	71.42	68.73	-0.65	4.01	±0.10	0.79	±0.05	69.49	±0.15	0.99	±0.08	33,562	51,121
VZM-72	-304	-316	72.00	69.27	-0.64	4.01	±0.10	0.79	±0.05	70.06	±0.15	0.99	±0.08	34,037	51,746
VZ-287	-304	-316	73.03	70.31	-0.65	4.01	±0.10	0.79	±0.05	71.09	±0.15	0.99	±0.08	34,318	52,276
VZ-293	-304	-316	74.60	71.88	-0.65	4.01	±0.10	0.79	±0.05	72.67	±0.15	0.99	±0.08	35,073	53,388
VZM-75	-304	-316	75.00	72.25	-0.64	4.01	±0.10	0.79	±0.05	73.06	±0.15	0.99	±0.08	35,456	53,902
VZ-300	-304	-316	76.20	73.46	-0.65	4.01	±0.10	0.79	±0.05	74.27	±0.15	0.99	±0.08	35,829	54,544
VZ-306	-304	-316	77.77	74.63	-0.70	4.78	±0.13	0.99	±0.05	75.44	±0.15	1.12	±0.08	44,275	70,058
VZM-78	-304	-316	78.00	74.85	-0.75	4.78	±0.13	0.99	±0.05	75.66	±0.15	1.12	±0.08	44,477	70,250

¹Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

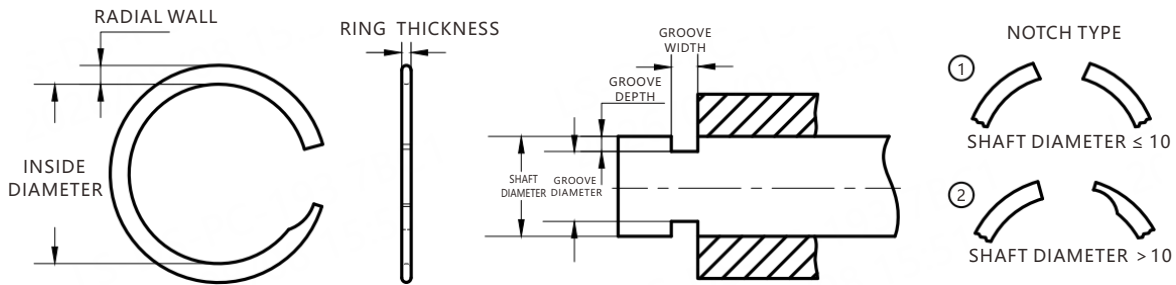
Single Turn Spiral Retaining Rings for Shaft



Lispring Part Number ¹			Shaft Diameter (mm)	Ring					Groove				Thrust Capacity		
Carbon Steel	304 SS	316 SS		Inside Diameter (mm)	Radial Wall (mm)	Thickness (mm)		Diameter (mm)	Width (mm)		Groove Yield (N)	Ring Shear (N)			
	Add Suffix	Add Suffix													
VZ-312	-304	-316	79.38	76.23	-0.75	4.78	±0.13	0.99	±0.05	77.04	±0.15	1.12	±0.08	45,164	71,480
VZM-80	-304	-316	80.00	76.82	-0.76	4.78	±0.13	0.99	±0.05	77.66	±0.15	1.12	±0.08	45,617	72,052
VZ-318	-304	-316	80.95	77.77	-0.75	4.78	±0.13	0.99	±0.05	78.61	±0.15	1.12	±0.08	46,053	72,903
VZM-82	-304	-316	82.00	78.79	-0.76	4.78	±0.13	0.99	±0.05	79.66	±0.15	1.12	±0.08	46,757	73,853
VZ-325	-304	-316	82.55	79.38	-0.75	4.78	±0.13	0.99	±0.05	80.21	±0.15	1.12	±0.08	46,987	74,325
VZ-331	-304	-316	84.12	80.92	-0.75	4.78	±0.13	0.99	±0.05	81.79	±0.15	1.12	±0.08	47,876	75,748
VZM-85	-304	-316	85.00	81.76	-0.76	4.78	±0.13	0.99	±0.05	82.66	±0.15	1.12	±0.08	48,468	76,555
VZ-337	-304	-316	85.73	82.50	-0.75	4.78	±0.13	0.99	±0.05	83.39	±0.15	1.12	±0.08	48,765	77,215
VZ-343	-304	-316	87.30	84.07	-0.75	4.78	±0.13	0.99	±0.05	84.96	±0.15	1.12	±0.08	49,698	78,637
VZM-88	-304	-316	88.00	84.73	-0.76	4.78	±0.13	0.99	±0.05	85.66	±0.15	1.12	±0.08	50,179	79,257
VZ-350	-304	-316	88.90	85.65	-0.75	4.78	±0.13	0.99	±0.05	86.56	±0.15	1.12	±0.08	50,587	80,059
VZM-90	-304	-316	90.00	86.69	-0.76	4.78	±0.13	0.99	±0.05	87.66	±0.15	1.12	±0.08	51,319	81,058
VZ-356	-304	-316	90.47	87.20	-0.75	4.78	±0.13	0.99	±0.05	88.14	±0.15	1.12	±0.08	51,476	81,482
VZ-362	-304	-316	92.08	88.80	-0.75	4.78	±0.13	0.99	±0.05	89.74	±0.15	1.12	±0.08	52,410	82,904
VZ-368	-304	-316	93.65	90.35	-0.75	4.78	±0.13	0.99	±0.05	91.31	±0.15	1.12	±0.08	53,299	84,327
VZM-95	-304	-316	95.00	91.66	-0.76	4.78	±0.13	0.99	±0.05	92.66	±0.15	1.12	±0.08	54,170	85,561
VZ-375	-304	-316	95.25	91.95	-0.75	4.78	±0.13	0.99	±0.05	92.91	±0.15	1.12	±0.08	54,188	85,794
VZ-381	-304	-316	96.82	93.50	-0.75	4.78	±0.13	0.99	±0.05	94.49	±0.15	1.12	±0.08	55,121	87,216
VZ-387	-304	-316	98.43	95.07	-0.75	4.78	±0.13	0.99	±0.05	96.09	±0.15	1.12	±0.08	56,011	88,639
VZM-100	-304	-316	100.00	96.62	-0.76	4.78	±0.13	0.99	±0.05	97.66	±0.15	1.12	±0.08	57,021	90,064
VZ-393	-304	-316	100.00	96.65	-0.75	4.78	±0.13	0.99	±0.05	97.66	±0.15	1.12	±0.08	56,900	90,061
VZ-400	-304	-316	101.60	98.22	-0.75	4.78	±0.13	0.99	±0.05	99.26	±0.15	1.12	±0.08	57,833	91,484
VZ-412	-304	-316	104.78	100.91	-0.90	5.72	±0.13	1.17	±0.05	101.98	±0.15	1.32	±0.10	71,302	106,020
VZM-105	-304	-316	105.00	101.13	-0.89	5.72	±0.13	1.17	±0.05	102.20	±0.15	1.32	±0.10	71,642	106,440
VZ-425	-304	-316	107.95	104.06	-0.90	5.72	±0.13	1.17	±0.05	105.16	±0.15	1.32	±0.10	73,436	109,221
VZM-110	-304	-316	110.00	106.08	-0.89	5.72	±0.13	1.17	±0.05	107.20	±0.18	1.32	±0.10	75,054	111,508
VZ-437	-304	-316	111.13	107.21	-0.90	5.72	±0.13	1.17	±0.05	108.33	±0.18	1.32	±0.10	75,614	112,421
VZ-450	-304	-316	114.30	110.36	-0.90	5.72	±0.13	1.17	±0.05	111.51	±0.18	1.32	±0.10	77,792	115,622
VZM-115	-304	-316	115.00	111.03	-0.89	5.72	±0.13	1.17	±0.05	112.20	±0.18	1.32	±0.10	78,465	116,577
VZ-462	-304	-316	117.48	113.49	-0.90	5.72	±0.13	1.17	±0.05	114.68	±0.18	1.32	±0.10	79,926	118,867
VZM-120	-304	-316	120.00	115.98	-0.89	5.72	±0.13	1.17	±0.05	117.20	±0.18	1.32	±0.10	81,877	121,645
VZ-475	-304	-316	120.65	116.64	-0.90	5.72	±0.13	1.17	±0.05	117.86	±0.18	1.32	±0.10	82,104	122,067
VZ-487	-304	-316	123.83	119.76	-0.90	5.72	±0.13	1.17	±0.05	121.03	±0.18	1.32	±0.10	84,238	125,268
VZM-125	-304	-316	125.00	120.93	-0.89	5.72	±0.13	1.17	±0.05	122.20	±0.18	1.32	±0.10	85,288	126,714
VZ-500	-304	-316	127.00	122.91	-0.90	5.72	±0.13	1.17	±0.05	124.21	±0.18	1.32	±0.10	86,416	128,469
VZM-130	-304	-316	130.00	125.88	-0.89	5.72	±0.13	1.17	±0.05	127.20	±0.18	1.32	±0.10	88,700	131,783
VZ-525	-304	-316	133.35	128.70	-1.15	5.72	±0.13	1.55	±0.05	130.02	±0.18	1.70	±0.10	108,865	178,878
VZM-135	-304	-316	135.00	130.31	-1.14	5.72	±0.13	1.55	±0.05	131.63	±0.18	1.70	±0.10	111,027	181,299
VZ-550	-304	-316	139.70	134.85	-1.15	5.72	±0.13	1.55	±0.05	136.22	±0.18	1.70	±0.10	119,267	187,413
VZM-140	-304	-316	140.00	135.13	-1.14	5.72	±0.13	1.55	±0.05	136.50	±0.18	1.70	±0.10	119,404	188,013
VZM-145	-304	-316	145.00	139.95	-1.14	5.72	±0.13	1.55	±0.05	141.37	±0.18	1.70	±0.10	127,974	194,907
VZ-575	-304	-316	146.05	140.97	-1.15	5.72	±0.13	1.55	±0.05	142.39	±0.18	1.70	±0.10	130,069	195,948
VZM-150	-304	-316	150.00	144.83	-1.14	5.72	±0.13	1.55	±0.05	146.25	±0.18	1.70	±0.10	137,070	201,443
VZ-600	-304	-316	152.40	147.12	-1.15	5.72	±0.13	1.55	±0.05	148.59	±0.18	1.70	±0.10	141,404	204,438
VZM-155	-304	-316	155.00	149.66	-1.14	5.72	±0.13	1.55	±0.05	151.13	±0.20	1.70	±0.10	146,361	208,158
VZ-625	-304	-316	158.75	153.24	-1.15	6.73	±0.13	1.55	±0.05	154.79	±0.20	1.70	±0.10	153,184	212,973
VZM-160	-304	-316	160.00	154.44	-1.14	6.73	±0.13	1.55	±0.05	156.00	±0.20	1.70	±0.10	155,956	214,872
VZM-165	-304	-316	165.00	159.27	-1.14	6.73	±0.13	1.55	±0.05	160.88	±0.20	1.70	±0.10	165,855	221,587

¹Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

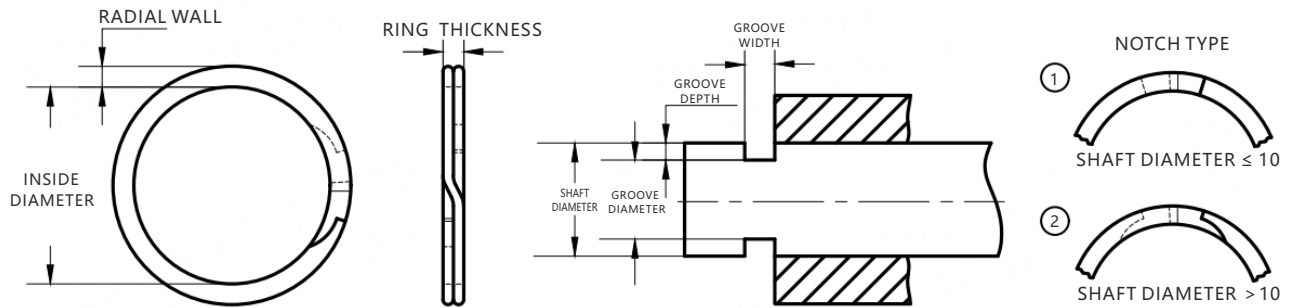
Single Turn Spiral Retaining Rings for Shaft



Lispring Part Number ¹			Shaft Diameter (mm)	Ring						Groove				Thrust Capacity		
Carbon Steel	304 SS	316 SS		Inside Diameter (mm)			Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)
	Add Suffix	Add Suffix														
VZ-650	-304	-316	165.10	159.39	-1.15	6.73	±0.13	1.55	±0.05	160.99	±0.20	1.70	±0.10	165,453	221,508	
VZM-170	-304	-316	170.00	164.09	-1.14	6.73	±0.13	1.55	±0.05	165.75	±0.20	1.70	±0.10	176,059	228,302	
VZ-675	-304	-316	171.45	165.48	-1.15	6.73	±0.13	1.55	±0.05	167.16	±0.20	1.70	±0.10	180,301	229,999	
VZM-175	-304	-316	175.00	168.92	-1.14	6.73	±0.13	1.55	±0.05	170.63	±0.20	1.70	±0.10	186,568	235,017	
VZ-700	-304	-316	177.80	171.63	-1.15	6.73	±0.13	1.55	±0.05	173.36	±0.20	1.70	±0.10	193,547	238,534	
VZM-180	-304	-316	180.00	173.75	-1.14	6.73	±0.13	1.55	±0.05	175.50	±0.20	1.70	±0.10	197,381	241,731	
VZ-725	-304	-316	184.15	177.75	-1.15	7.62	+0.1/-0.2	1.55	±0.05	179.55	±0.20	1.70	±0.10	207,328	247,069	
VZM-185	-304	-316	185.00	178.57	-1.14	7.62	±0.15	1.55	±0.05	180.38	±0.20	1.70	±0.10	208,499	248,446	
VZM-190	-304	-316	190.00	183.40	-1.52	7.62	±0.15	1.55	±0.05	185.25	±0.20	1.70	±0.10	219,922	255,161	
VZ-750	-304	-316	190.50	183.90	-1.50	7.62	+0.1/-0.2	1.55	±0.05	185.75	±0.20	1.70	±0.10	221,508	255,559	
VZM-195	-304	-316	195.00	188.22	-1.52	7.62	±0.15	1.55	±0.05	190.13	±0.20	1.70	±0.10	231,649	261,876	
VZ-775	-304	-316	196.85	189.99	-1.50	7.62	+0.1/-0.2	1.55	±0.05	191.92	±0.20	1.70	±0.10	236,222	264,094	
VZM-200	-304	-316	200.00	193.05	-1.52	7.62	±0.15	1.55	±0.05	195.00	±0.20	1.70	±0.10	243,681	268,590	
VZ-800	-304	-316	203.20	196.14	-1.50	7.62	+0.1/-0.2	1.55	±0.05	198.12	±0.20	1.70	±0.10	251,381	272,585	
VZ-825	-304	-316	209.55	202.29	-1.50	8.76	+0.1/-0.2	1.93	±0.05	204.32	±0.20	2.08	±0.13	267,028	350,244	
VZM-210	-304	-316	210.00	202.70	-1.52	8.76	±0.15	1.93	±0.05	204.75	±0.20	2.08	±0.13	268,658	351,160	
VZ-850	-304	-316	215.90	208.41	-1.50	8.76	+0.1/-0.2	1.93	±0.05	210.52	±0.20	2.08	±0.13	283,120	360,868	
VZM-220	-304	-316	220.00	212.36	-1.52	8.76	±0.15	1.93	±0.05	214.50	±0.20	2.08	±0.13	294,854	367,882	
VZ-875	-304	-316	222.25	214.53	-1.50	8.76	+0.1/-0.2	1.93	±0.05	216.69	±0.20	2.08	±0.13	302,457	371,492	
VZ-900	-304	-316	228.60	220.65	-1.80	8.76	+0.1/-0.2	1.93	±0.05	222.89	±0.20	2.08	±0.13	319,571	382,072	
VZM-230	-304	-316	230.00	222.01	-1.78	8.76	±0.15	1.93	±0.05	224.25	±0.20	2.08	±0.13	322,268	384,604	
VZ-925	-304	-316	234.95	226.80	-1.80	8.76	+0.1/-0.2	1.93	±0.05	229.08	±0.20	2.08	±0.13	337,174	392,696	
VZM-240	-304	-316	240.00	231.66	-1.78	8.76	±0.15	1.93	±0.05	234.00	±0.20	2.08	±0.13	350,900	401,326	
VZ-950	-304	-316	241.30	232.92	-1.80	8.76	+0.1/-0.2	1.93	±0.05	235.28	±0.20	2.08	±0.13	355,222	403,320	
VZ-975	-304	-316	247.65	239.04	-1.80	8.76	+0.1/-0.2	1.93	±0.05	241.45	±0.20	2.08	±0.13	373,759	413,944	
VZM-250	-304	-316	250.00	241.31	-1.78	8.76	±0.15	1.93	±0.05	243.75	±0.20	2.08	±0.13	380,751	418,048	
VZ-1000	-304	-316	254.00	245.19	-1.80	8.76	+0.1/-0.2	1.93	±0.05	247.65	±0.20	2.08	±0.13	392,785	424,524	
VZM-260	-304	-316	260.00	250.97	-1.78	9.65	±0.15	1.93	±0.05	253.50	±0.20	2.08	±0.13	411,821	434,770	
VZM-270	-304	-316	270.00	260.62	-1.78	9.65	±0.15	1.93	±0.05	263.25	±0.20	2.08	±0.13	444,108	451,492	
VZM-280	-304	-316	280.00	270.27	-1.78	9.65	±0.15	1.93	±0.05	273.00	±0.20	2.08	±0.13	477,614	468,214	
VZM-290	-304	-316	290.00	279.92	-1.78	9.65	±0.15	1.93	±0.05	282.75	±0.20	2.08	±0.13	512,339	484,936	
VZM-300	-304	-316	300.00	289.58	-1.78	9.65	±0.15	1.93	±0.05	292.50	±0.20	2.08	±0.13	548,282	501,658	

¹Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

2-Turn Spiral Retaining Rings For Shaft



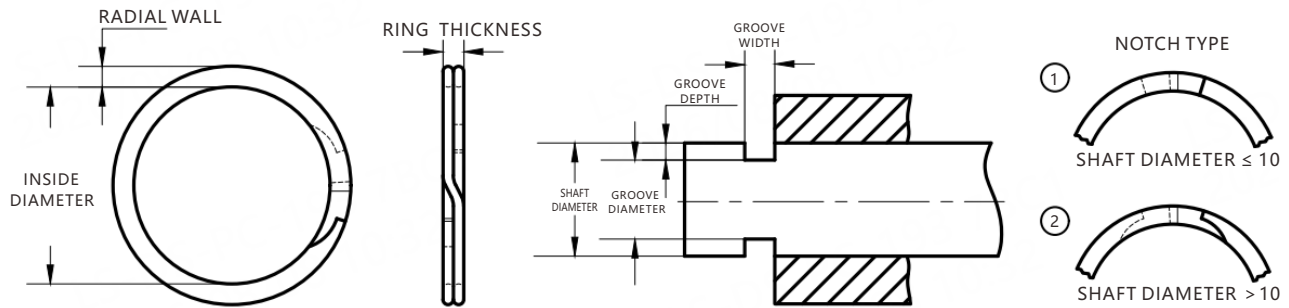
Lispring Part Number ¹			Shaft Diameter (mm)	Ring						Groove			Thrust Capacity		
Carbon Steel	304 SS	316 SS		Inside Diameter (mm)	Radial Wall (mm)		Thickness (mm)		Diameter (mm)	Width (mm)		Groove Yield (N)	Ring Shear (N)		
	Add Suffix	Add Suffix													
EZ-6 ^{2,3}	-304	-316	6.00	5.61	-0.25	0.48	±0.1	0.64	±0.05	5.66	±0.05	0.74	+0.08	500	3,160
WZM-25 ^{2,3}	-304	-316	6.35	5.79	-0.25	0.51	+0.08/-0.12	0.64	±0.05	5.84	±0.05	0.74	+0.08	787	4,272
EZ-7 ^{2,3}	-304	-316	7.00	6.53	-0.25	0.61	±0.1	0.64	±0.05	6.58	±0.05	0.74	+0.08	720	3,690
WZM-31 ^{2,3}	-304	-316	7.92	7.29	-0.25	0.64	+0.08/-0.12	0.64	±0.05	7.37	±0.05	0.74	+0.08	1,080	5,334
EZ-8 ^{2,3}	-304	-316	8.00	7.49	-0.25	0.61	±0.1	0.64	±0.05	7.57	±0.05	0.74	+0.08	840	4,210
EZ-9 ^{2,3}	-304	-316	9.00	8.41	-0.25	0.74	±0.1	0.64	±0.05	8.48	±0.05	0.74	+0.08	1,140	4,740
WZM-37 ^{2,3}	-304	-316	9.53	8.86	-0.25	0.76	+0.08/-0.12	0.64	±0.05	8.94	±0.05	0.74	+0.08	1,356	6,410
EZ-10 ^{2,3}	-304	-316	10.00	9.40	-0.25	0.74	±0.1	0.64	±0.05	9.50	±0.05	0.74	+0.08	1,220	5,270
EZ-11 ³	-304	-316	11.00	10.39	-0.30	0.86	±0.1	0.64	±0.05	10.46	±0.05	0.74	+0.08	1,450	5,790
WZM-43 ³	-304	-316	11.10	10.39	-0.30	0.89	+0.08/-0.12	0.64	±0.05	10.46	±0.05	0.74	+0.08	1,716	7,468
WZT-46	-304	-316	11.91	11.07	-0.33	1.14	±0.1	0.64	±0.05	11.25	±0.05	0.74	+0.08	1,911	8,002
WZM-46	-304	-316	11.91	11.15	-0.33	1.14	+0.08/-0.12	0.64	±0.05	11.25	±0.05	0.74	+0.08	1,911	8,357
EZ-12	-304	-316	12.00	11.18	-0.33	1.12	±0.1	0.60	±0.05	11.29	±0.06	0.70	+0.08	2,100	7,950
WZM-50	-304	-316	12.70	11.79	-0.33	1.27	+0.08/-0.12	0.89	±0.05	11.89	±0.05	0.99	+0.08	2,534	11,247
WZ-50	-304	-316	12.70	11.86	-0.33	1.14	+0.08/-0.12	0.64	±0.05	12.04	±0.05	0.76	+0.08	2,045	8,891
WZT-50	-304	-316	12.70	11.91	-0.33	1.14	±0.1	0.89	±0.05	12.04	±0.05	0.99	+0.08	2,045	11,247
EZ-13	-304	-316	13.00	12.13	-0.33	1.25	±0.1	0.89	±0.05	12.24	±0.06	1.00	+0.08	2,410	12,100
DNZ-13	-304	-316	13.00	12.27	-0.33	1.40	±0.1	0.99	±0.05	12.40	-0.11	1.10	+0.14	1,901	13,474
WZ-53	-304	-316	13.49	12.65	-0.33	1.14	+0.08/-0.12	0.64	±0.05	12.83	±0.05	0.76	+0.08	2,178	9,468
EZ-14	-304	-316	14.00	13.06	-0.33	1.25	±0.1	0.89	±0.05	13.19	±0.06	1.00	+0.08	2,800	13,040
WZM-55	-304	-316	14.00	13.06	-0.33	1.27	+0.08/-0.12	0.89	±0.05	13.18	±0.08	0.99	+0.08	2,756	12,402
WZ-55	-304	-316	14.00	13.16	-0.33	1.14	+0.08/-0.12	0.64	±0.05	13.34	±0.05	0.76	+0.08	2,267	9,824
WZT-55	-304	-316	14.00	13.16	-0.33	1.14	±0.1	0.89	±0.05	13.31	±0.08	0.99	+0.08	2,445	12,402
DNZ-14	-304	-316	14.00	13.26	-0.33	1.40	±0.1	0.99	±0.05	13.40	-0.11	1.10	+0.14	2,047	14,510
WZM-56	-304	-316	14.27	13.34	-0.33	1.27	+0.08/-0.12	0.89	±0.05	13.46	±0.08	0.99	+0.08	2,845	12,625
WZ-56	-304	-316	14.27	13.44	-0.33	1.14	+0.08/-0.12	0.64	±0.05	13.61	±0.05	0.76	+0.08	2,312	10,002
WZT-56	-304	-316	14.27	13.44	-0.33	1.14	±0.1	0.89	±0.05	13.59	±0.08	0.99	+0.08	2,489	12,625
EZ-15	-304	-316	15.00	13.98	-0.33	1.25	±0.1	0.89	±0.05	14.09	±0.06	1.00	+0.08	3,360	13,970
WZM-59	-304	-316	15.09	14.07	-0.33	1.27	+0.08/-0.12	0.89	±0.05	14.20	±0.08	0.99	+0.08	3,378	13,336
DNZ-15	-304	-316	15.00	14.15	-0.33	1.40	±0.1	0.99	±0.05	14.30	-0.11	1.10	+0.14	2,559	15,547
WZT-59	-304	-316	15.09	14.20	-0.33	1.14	±0.1	0.89	±0.05	14.35	±0.08	0.99	+0.08	2,801	13,336
WZ-59	-304	-316	15.09	14.25	-0.33	1.14	+0.08/-0.12	0.64	±0.05	14.45	±0.08	0.76	+0.08	2,445	10,580
WZM-62	-304	-316	15.88	14.81	-0.33	1.40	+0.08/-0.12	0.89	±0.05	14.94	±0.08	0.99	+0.08	3,734	14,047
WZ-62	-304	-316	15.88	14.86	-0.33	1.40	+0.08/-0.12	0.64	±0.05	15.09	±0.08	0.76	+0.08	3,156	11,113
EZ-16	-304	-316	16.00	14.90	-0.33	1.38	±0.1	0.89	±0.05	15.02	±0.08	1.00	+0.08	3,820	14,900
WZT-62	-304	-316	15.88	14.99	-0.33	1.40	±0.1	0.89	±0.05	15.14	±0.08	0.99	+0.08	2,934	14,047
DNZ-16	-304	-316	16.00	15.04	-0.33	1.65	±0.1	0.99	±0.05	15.20	-0.11	1.10	+0.14	3,119	16,583
WZ-65	-304	-316	16.66	15.67	-0.33	1.40	+0.08/-0.12	0.64	±0.05	15.88	±0.08	0.76	+0.08	3,290	11,691
EZ-17	-304	-316	17.00	15.82	-0.33	1.38	±0.1	0.89	±0.05	16.02	±0.08	1.00	+0.08	4,060	15,830
WZM-66	-304	-316	16.99	15.82	-0.33	1.40	+0.08/-0.12	0.89	±0.05	15.98	±0.08	0.99	+0.08	4,223	15,025
WZ-66	-304	-316	16.99	15.98	-0.33	1.40	+0.08/-0.12	0.64	±0.05	16.21	±0.08	0.76	+0.08	3,378	11,913
WZT-66	-304	-316	16.99	16.00	-0.33	1.40	±0.1	0.89	±0.05	16.21	±0.08	0.99	+0.08	3,378	15,025
DNZ-17	-304	-316	17.00	16.04	-0.33	1.65	±0.1	0.99	±0.05	16.20	-0.11	1.10	+0.14	3,314	17,620
WZM-68	-304	-316	17.48	16.28	-0.33	1.65	+0.08/-0.12	1.07	±0.05	16.41	±0.08	1.17	+0.08	4,534	18,581
WZ-68	-304	-316	17.45	16.43	-0.33	1.40	+0.08/-0.12	0.64	±0.05	16.66	±0.08	0.76	+0.08	3,467	12,225
WZT-68	-304	-316	17.48	16.46	-0.33	1.65	±0.1	1.07	±0.05	16.64	±0.08	1.17	+0.08	3,690	18,581
EZ-18	-304	-316	18.00	16.80	-0.33	1.63	±0.1	1.07	±0.05	16.92	±0.08	1.20	+0.08	4,730	20,150
DNZ-18	-304	-316	18.00	16.83	-0.33	1.91	±0.1	1.14	±0.05	17.00	-0.11	1.30	+0.14	4,386	18,668

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

² Superscript numeral 2 at the top-right corner of the part number indicates the component is designed without disassembly notches; all unmarked items feature standard disassembly notches as illustrated.

³ Superscript numeral 3 at the top-right corner of the part number signifies square-edge wire construction; all unmarked items adopt flat-edge wire construction.

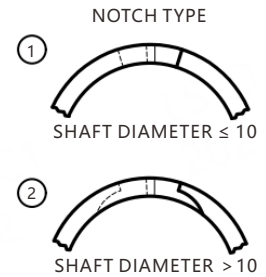
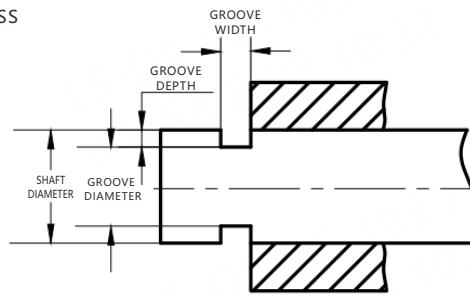
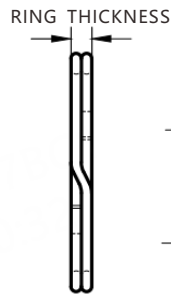
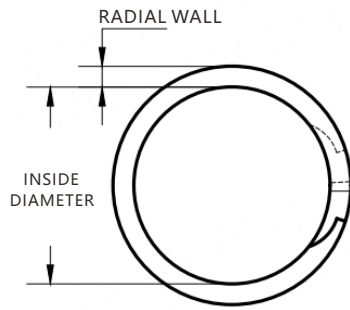
2-Turn Spiral Retaining Rings For Shaft



Lispring Part Number ¹			Shaft Diameter (mm)	Ring						Groove			Thrust Capacity		
Carbon Steel	304 SS	316 SS		Inside Diameter (mm)		Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)	Groove Yield (N)	Ring Shear (N)	
	Add Suffix	Add Suffix													
WZ-71	-304	-316	18.24	17.25	-0.33	1.40	+0.08/-0.12	0.64	±0.05	17.45	±0.08	0.76	±0.08	3,601	12,802
EZ-19	-304	-316	19.00	17.73	-0.33	1.63	±0.1	1.07	±0.05	17.87	±0.08	1.20	±0.08	5,270	21,270
WZM-75	-304	-316	19.05	17.73	-0.33	1.65	+0.08/-0.12	1.07	±0.05	17.88	±0.08	1.17	±0.08	5,423	20,226
DNZ-19	-304	-316	19.00	17.83	-0.33	1.91	±0.1	1.14	±0.05	18.00	-0.11	1.30	±0.14	4,630	19,705
WZT-75	-304	-316	19.05	17.98	-0.33	1.65	±0.1	1.07	±0.05	18.16	±0.08	1.17	±0.08	4,223	20,226
WZ-75	-304	-316	19.05	18.03	-0.33	1.65	+0.08/-0.12	0.79	±0.05	18.26	±0.08	0.91	±0.08	3,778	14,936
WZM-78	-304	-316	19.84	18.47	-0.33	1.65	+0.08/-0.12	1.07	±0.05	18.62	±0.08	1.17	±0.08	5,912	21,071
EZ-20	-304	-316	20.00	18.62	-0.33	1.63	±0.1	1.07	±0.05	18.77	±0.08	1.20	±0.08	6,040	22,390
WZT-78	-304	-316	19.84	18.75	-0.33	1.65	±0.1	1.07	±0.05	18.92	±0.08	1.17	±0.08	4,401	21,071
WZ-78	-304	-316	19.84	18.82	-0.33	1.65	+0.08/-0.12	0.79	±0.05	19.05	±0.08	0.91	±0.08	3,912	15,558
DNZ-20	-304	-316	20.00	18.82	-0.33	1.91	±0.1	1.14	±0.05	19.00	-0.13	1.30	±0.14	4,874	20,742
WZM-81	-304	-316	20.62	19.20	-0.33	1.65	+0.08/-0.12	1.07	±0.05	19.35	±0.08	1.17	±0.08	6,401	21,915
WZT-81	-304	-316	20.62	19.51	-0.33	1.65	±0.1	1.07	±0.05	19.71	±0.08	1.17	±0.08	4,579	21,915
EZ-21	-304	-316	21.00	19.57	-0.33	1.63	±0.1	1.07	±0.05	19.72	±0.08	1.20	±0.08	6,550	23,510
WZ-81	-304	-316	20.62	19.58	-0.33	1.65	+0.08/-0.12	0.79	±0.05	19.84	±0.08	0.91	±0.08	4,090	16,181
DNZ-21	-304	-316	21.00	19.79	-0.33	1.91	±0.1	1.14	±0.05	20.00	-0.13	1.30	±0.14	5,117	21,779
WZ-84	-304	-316	21.41	20.40	-0.33	1.65	+0.08/-0.12	0.79	±0.05	20.62	±0.08	0.91	±0.08	4,223	16,803
EZ-22	-304	-316	22.00	20.45	-0.33	1.88	±0.1	1.07	±0.05	20.62	±0.08	1.20	±0.08	7,390	24,630
WZM-87	-304	-316	22.23	20.68	-0.33	1.91	+0.08/-0.12	1.07	±0.05	20.85	±0.08	1.17	±0.08	7,424	23,604
DNZ-22	-304	-316	22.00	20.78	-0.33	1.91	±0.1	1.14	±0.05	21.00	-0.13	1.30	±0.14	5,361	22,816
WZT-87	-304	-316	22.23	21.01	-0.33	1.91	±0.1	1.07	±0.05	21.21	±0.08	1.17	±0.08	5,512	23,604
WZ-87	-304	-316	22.23	21.03	-0.33	1.65	+0.08/-0.12	0.79	±0.05	21.29	±0.08	0.91	±0.08	5,245	17,425
EZ-23	-304	-316	23.00	21.39	-0.33	1.88	±0.1	1.07	±0.05	21.57	±0.08	1.20	±0.08	8,070	25,750
DNZ-23	-304	-316	23.00	21.77	-0.33	1.91	±0.1	1.14	±0.05	22.00	-0.13	1.30	±0.14	5,605	23,853
WZ-90	-304	-316	23.01	21.84	-0.33	1.65	+0.08/-0.12	0.79	±0.05	22.07	±0.08	0.91	±0.08	5,423	18,048
WZM-93	-304	-316	23.83	22.23	-0.33	1.91	+0.08/-0.12	1.07	±0.05	22.40	±0.08	1.17	±0.08	8,268	25,294
EZ-24	-304	-316	24.00	22.35	-0.33	1.88	±0.1	1.07	±0.05	22.52	±0.08	1.20	±0.08	8,650	25,294
WZT-93	-304	-316	23.83	22.50	-0.33	1.91	±0.1	1.07	±0.05	22.71	±0.08	1.17	±0.08	6,490	25,294
WZ-93	-304	-316	23.80	22.58	-0.33	1.65	+0.08/-0.12	0.79	±0.05	22.86	±0.08	0.91	±0.08	5,601	18,670
DNZ-24	-304	-316	24.00	22.66	-0.33	2.16	±0.1	1.14	±0.05	22.90	-0.21	1.30	±0.14	6,433	24,891
EZ-25	-304	-316	25.00	23.25	-0.33	2.14	±0.1	1.07	±0.05	23.42	±0.08	1.20	±0.08	9,620	27,990
WZ-96	-304	-316	24.59	23.27	-0.33	1.91	+0.08/-0.12	0.94	±0.05	23.50	±0.08	1.07	±0.08	6,401	23,027
WZM-98	-304	-316	24.99	23.34	-0.33	2.16	+0.08/-0.12	1.07	±0.05	23.52	±0.08	1.17	±0.08	8,979	26,538
WZ-98	-304	-316	24.99	23.62	-0.33	1.91	+0.08/-0.12	0.94	±0.05	23.90	±0.08	1.07	±0.08	6,490	23,380
DNZ-25	-304	-316	25.00	23.65	-0.33	2.16	±0.1	1.14	±0.05	23.90	-0.21	1.30	±0.14	6,701	25,928
WZM-100	-304	-316	25.40	23.67	-0.33	2.16	+0.08/-0.12	1.07	±0.05	23.88	±0.08	1.17	±0.08	9,424	26,983
WZT-98	-304	-316	24.99	23.72	-0.33	1.91	±0.1	1.07	±0.05	23.88	±0.08	1.17	±0.08	6,801	26,538
WZ-100	-304	-316	25.40	24.03	-0.33	1.91	+0.08/-0.12	0.94	±0.05	24.31	±0.08	1.07	±0.08	6,579	23,782
WZT-100	-304	-316	25.40	24.05	-0.33	1.91	±0.1	1.07	±0.05	24.26	±0.08	1.17	±0.08	7,246	26,983
EZ-26	-304	-316	26.00	24.21	-0.33	2.14	±0.1	1.07	±0.05	24.42	±0.08	1.20	±0.08	10,000	29,110
WZM-102	-304	-316	25.98	24.21	-0.33	2.16	+0.08/-0.12	1.07	±0.05	24.41	±0.08	1.17	±0.08	9,957	27,605
WZ-102	-304	-316	25.98	24.59	-0.33	1.91	+0.08/-0.12	0.94	±0.05	24.89	±0.08	1.07	±0.08	6,757	24,316
WZT-102	-304	-316	25.98	24.61	-0.33	1.91	±0.1	1.07	±0.05	24.82	±0.10	1.17	±0.08	7,379	27,605
DNZ-26	-304	-316	26.00	24.64	-0.33	2.16	±0.1	1.14	±0.05	24.90	-0.21	1.30	±0.14	6,969	26,965
WZ-103	-304	-316	26.19	24.84	-0.33	1.91	+0.08/-0.12	0.94	±0.05	25.10	±0.08	1.07	±0.08	6,801	24,493
EZ-27	-304	-316	27.00	25.04	-0.33	2.59	±0.1	1.27	±0.05	25.35	±0.10	1.40	±0.10	10,910	31,170
WZM-106	-304	-316	26.97	25.04	-0.33	2.62	+0.08/-0.12	1.27	±0.05	25.35	±0.10	1.42	±0.10	10,669	31,161
DNZ-27	-304	-316	27.00	25.34	-0.38	2.16	±0.1	1.14	±0.05	25.60	-0.21	1.30	±0.14	9,211	28,002

¹Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

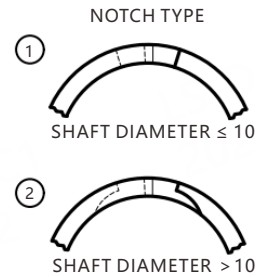
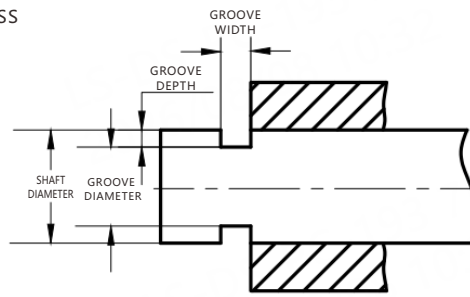
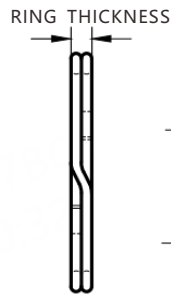
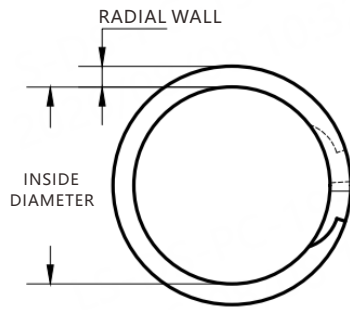
2-Turn Spiral Retaining Rings For Shaft



Lispring Part Number ¹			Shaft Diameter (mm)	Ring						Groove			Thrust Capacity		
Carbon Steel	304 SS	316 SS		Inside Diameter (mm)	Radial Wall (mm)	Thickness (mm)		Diameter (mm)	Width (mm)	Groove Yield (N)	Ring Shear (N)				
	Add Suffix	Add Suffix													
WZT-106	-304	-316	26.97	25.53	-0.38	2.24	±0.1	1.27	±0.05	25.78	±0.10	1.42	+0.10	8,002	31,161
WZ-106	-304	-316	26.97	25.58	-0.38	1.91	+0.08/-0.12	0.94	±0.05	25.91	±0.10	1.07	+0.08	7,024	25,249
EZ-28	-304	-316	28.00	26.00	-0.33	2.59	±0.1	1.27	±0.05	26.30	±0.10	1.40	+0.10	11,590	32,330
DNZ-28	-304	-316	28.00	26.34	-0.38	2.39	±0.1	1.44	±0.05	26.60	-0.21	1.60	+0.14	9,552	36,681
WZ-109	-304	-316	27.76	26.42	-0.38	1.91	+0.08/-0.12	0.94	±0.05	26.70	±0.10	1.07	+0.08	7,201	25,960
WZM-112	-304	-316	28.58	26.59	-0.33	2.62	+0.08/-0.12	1.27	±0.05	26.90	±0.10	1.42	+0.10	11,647	32,984
EZ-29	-304	-316	29.00	26.95	-0.33	2.59	±0.1	1.27	±0.05	27.27	±0.10	1.40	+0.10	12,290	33,480
WZT-112	-304	-316	28.58	27.03	-0.38	2.24	±0.1	1.27	±0.05	27.31	±0.10	1.42	+0.10	8,846	32,984
WZ-112	-304	-316	28.58	27.18	-0.38	1.91	+0.08/-0.12	0.94	±0.05	27.51	±0.10	1.07	+0.08	7,424	26,761
DNZ-29	-304	-316	29.00	27.33	-0.38	2.39	±0.1	1.44	±0.05	27.60	-0.21	1.60	+0.14	9,893	37,991
EZ-30	-304	-316	30.00	27.92	-0.33	2.59	±0.1	1.27	±0.05	28.25	±0.10	1.40	+0.10	12,860	34,640
WZ-115	-304	-316	29.36	27.99	-0.38	1.91	+0.08/-0.12	0.94	±0.05	28.30	±0.10	1.07	+0.08	7,646	27,472
WZM-118	-304	-316	30.18	28.07	-0.33	2.62	+0.08/-0.12	1.27	±0.05	28.40	±0.10	1.42	+0.10	13,069	34,851
DNZ-30	-304	-316	30.00	28.32	-0.38	2.39	±0.1	1.44	±0.05	28.60	-0.21	1.60	+0.14	10,235	39,301
WZT-118	-304	-316	30.18	28.60	-0.38	2.24	±0.1	1.27	±0.05	28.83	±0.10	1.42	+0.10	10,091	32,762
WZ-118	-304	-316	30.18	28.63	-0.38	2.16	+0.08/-0.12	1.09	±0.05	28.96	±0.10	1.22	+0.10	8,979	32,806
EZ-31	-304	-316	31.00	28.84	-0.33	2.59	±0.1	1.27	±0.05	29.17	±0.10	1.40	+0.10	13,890	35,790
WZ-121	-304	-316	30.94	29.44	-0.38	2.16	+0.08/-0.12	1.09	±0.05	29.72	±0.10	1.22	+0.10	9,202	33,651
WZM-125	-304	-316	31.75	29.54	-0.33	2.62	+0.08/-0.12	1.27	±0.05	29.87	±0.10	1.42	+0.10	14,536	36,674
EZ-32	-304	-316	32.00	29.77	-0.33	2.59	±0.1	1.27	±0.05	30.09	±0.10	1.40	+0.10	14,960	36,950
DNZ-32	-304	-316	32.00	30.00	-0.38	3.25	±0.1	1.44	±0.05	30.30	-0.25	1.60	+0.14	13,256	41,921
WZT-125	-304	-316	31.75	30.07	-0.38	2.36	±0.1	1.27	±0.05	30.35	±0.10	1.42	+0.10	10,980	36,674
WZ-125	-304	-316	31.75	30.18	-0.38	2.16	+0.08/-0.12	1.09	±0.05	30.53	±0.10	1.22	+0.10	9,424	34,540
WZM-131	-304	-316	33.32	30.94	-0.33	3.00	+0.08/-0.12	1.27	±0.05	31.29	±0.10	1.42	+0.10	16,492	38,496
DNZ-33	-304	-316	33.00	30.99	-0.38	3.25	±0.1	1.44	±0.05	31.30	-0.25	1.60	+0.14	13,670	43,231
WZ-128	-304	-316	32.54	31.01	-0.38	2.16	+0.08/-0.12	1.09	±0.05	31.32	±0.10	1.22	+0.10	9,646	35,384
WZT-131	-304	-316	33.32	31.50	-0.38	2.49	±0.1	1.27	±0.05	31.75	±0.10	1.42	+0.10	12,802	38,496
EZ-34	-304	-316	34.00	31.54	-0.33	2.97	±0.1	1.27	±0.05	31.90	±0.10	1.40	+0.10	17,390	39,260
WZ-131	-304	-316	33.32	31.78	-0.38	2.41	+0.08/-0.12	1.09	±0.05	32.11	±0.10	1.22	+0.10	9,913	36,229
DNZ-34	-304	-316	34.00	31.98	-0.38	3.25	±0.1	1.44	±0.05	32.30	-0.25	1.60	+0.14	14,085	44,541
EZ-35	-304	-316	35.00	32.44	-0.33	2.97	±0.1	1.27	±0.05	32.80	±0.10	1.40	+0.10	18,750	40,410
WZM-137	-304	-316	34.93	32.44	-0.33	3.00	+0.08/-0.12	1.27	±0.05	32.79	±0.10	1.42	+0.10	18,137	40,319
WZ-134	-304	-316	34.11	32.56	-0.38	2.41	+0.08/-0.12	1.09	±0.05	32.89	±0.10	1.22	+0.10	10,135	37,118
DNZ-35	-304	-316	35.00	32.66	-0.38	3.25	±0.1	1.44	±0.05	33.00	-0.25	1.60	+0.14	17,058	45,851
WZT-137	-304	-316	34.93	32.97	-0.38	2.62	±0.1	1.27	±0.05	33.27	±0.10	1.42	+0.10	14,269	40,319
WZ-137	-304	-316	34.93	33.22	-0.38	2.41	+0.08/-0.12	1.09	±0.05	33.60	±0.10	1.22	+0.10	11,247	37,963
EZ-36	-304	-316	36.00	33.40	-0.33	2.97	±0.1	1.27	±0.05	33.75	±0.10	1.40	+0.10	19,810	41,560
DNZ-36	-304	-316	36.00	33.65	-0.38	4.01	±0.1	1.69	±0.05	34.00	-0.25	1.85	+0.14	17,545	55,349
WZM-143	-304	-316	36.53	33.93	-0.33	3.00	+0.08/-0.12	1.27	±0.05	34.29	±0.10	1.42	+0.10	19,870	42,186
WZ-140	-304	-316	35.71	34.04	-0.38	2.41	+0.08/-0.12	1.09	±0.05	34.39	±0.10	1.22	+0.10	11,469	38,852
EZ-37	-304	-316	37.00	34.24	-0.33	2.97	±0.1	1.27	±0.05	34.67	±0.15	1.40	+0.10	21,080	42,720
WZT-143	-304	-316	36.53	34.52	-0.38	2.62	±0.1	1.27	±0.05	34.80	±0.10	1.42	+0.10	15,381	42,186
WZ-143	-304	-316	36.50	34.80	-0.38	2.41	+0.08/-0.12	1.09	±0.05	35.18	±0.10	1.22	+0.10	11,736	39,696
EZ-38	-304	-316	38.00	35.18	-0.33	2.97	±0.1	1.27	±0.05	35.66	±0.15	1.40	+0.10	21,650	43,870
WZM-150	-304	-316	38.10	35.18	-0.33	3.00	+0.08/-0.12	1.27	±0.05	35.71	±0.10	1.42	+0.10	22,137	44,008
WZ-146	-304	-316	37.29	35.61	-0.38	2.41	+0.08/-0.12	1.09	±0.05	35.97	±0.10	1.22	+0.10	12,002	40,541
DNZ-38	-304	-316	38.00	35.64	-0.38	4.01	±0.1	1.69	±0.05	36.00	-0.25	1.85	+0.14	18,520	58,424
WZT-150	-304	-316	38.10	36.04	-0.38	2.62	±0.1	1.27	±0.05	36.32	±0.10	1.42	+0.10	16,492	44,008

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

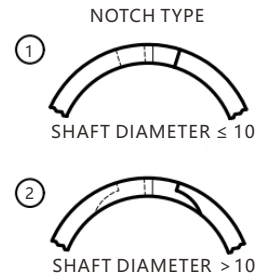
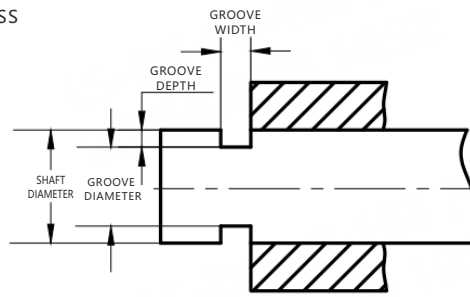
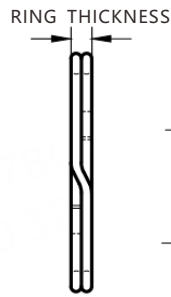
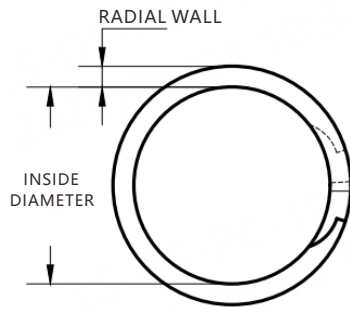
2-Turn Spiral Retaining Rings For Shaft



Lispring Part Number ¹			Shaft Diameter (mm)	Ring						Groove				Thrust Capacity	
Carbon Steel	304 SS	316 SS		Inside Diameter (mm)	Radial Wall (mm)		Thickness (mm)		Diameter (mm)	Width (mm)			Groove Yield (N)	Ring Shear (N)	
	Add Suffix	Add Suffix													
WZ-150	-304	-316	38.10	36.40	-0.38	2.41	+0.08/-0.12	1.09	±0.05	36.78	±0.10	1.22	+0.10	12,269	41,430
WZM-156	-304	-316	39.67	36.91	-0.50	3.25	+0.08/-0.12	1.57	±0.08	37.29	±0.13	1.73	+0.10	23,071	56,811
DNZ-40	-304	-316	40.00	37.11	-0.50	4.01	±0.1	1.69	±0.05	37.50	-0.25	1.85	+0.14	24,368	61,498
EZ-40	-304	-316	40.00	37.15	-0.51	3.23	±0.1	1.57	±0.08	37.55	±0.15	1.75	+0.10	23,960	57,090
WZT-156	-304	-316	39.67	37.49	-0.50	2.87	±0.1	1.57	±0.08	37.85	±0.13	1.73	+0.10	17,692	56,811
WZ-156	-304	-316	39.67	37.85	-0.50	2.74	+0.08/-0.12	1.24	±0.08	38.28	±0.13	1.42	+0.10	13,736	44,897
WZ-157	-304	-316	40.01	38.18	-0.50	2.74	+0.08/-0.12	1.24	±0.08	38.61	±0.13	1.42	+0.10	13,869	45,297
WZM-162	-304	-316	41.28	38.43	-0.50	3.25	+0.08/-0.12	1.57	±0.08	38.84	±0.13	1.73	+0.10	24,493	59,078
EZ-42	-304	-316	42.00	39.02	-0.51	3.23	±0.1	1.57	±0.08	39.45	±0.15	1.75	+0.10	26,180	59,990
WZT-162	-304	-316	41.28	39.04	-0.50	3.00	±0.1	1.57	±0.08	39.37	±0.13	1.73	+0.10	19,426	59,078
DNZ-42	-304	-316	42.00	39.09	-0.51	4.01	±0.1	1.69	±0.05	39.50	-0.25	1.85	+0.14	25,586	64,573
WZ-162	-304	-316	41.28	39.34	-0.50	2.74	+0.08/-0.12	1.24	±0.08	39.78	±0.13	1.42	+0.10	15,336	46,720
WZM-168	-304	-316	42.85	39.95	-0.50	3.25	+0.08/-0.12	1.57	±0.08	40.36	±0.13	1.73	+0.10	25,960	61,345
WZT-168	-304	-316	42.85	40.59	-0.50	3.00	±0.1	1.57	±0.08	40.89	±0.13	1.73	+0.10	20,671	61,345
WZ-168	-304	-316	42.85	40.89	-0.50	3.00	+0.08/-0.12	1.24	±0.08	41.35	±0.13	1.42	+0.10	15,914	48,498
WZM-175	-304	-316	44.45	41.48	-0.50	3.25	+0.08/-0.12	1.57	±0.08	41.91	±0.13	1.73	+0.10	27,516	63,656
EZ-45	-304	-316	45.00	41.77	-0.50	3.23	±0.1	1.57	±0.08	42.25	±0.15	1.75	+0.10	30,240	64,230
WZM-177	-304	-316	44.98	41.94	-0.50	3.25	+0.08/-0.12	1.57	±0.08	42.39	±0.13	1.73	+0.10	28,361	64,412
DNZ-45	-304	-316	45.00	42.06	-0.50	4.01	±0.1	1.69	±0.05	42.50	-0.25	1.85	+0.14	27,414	69,186
WZT-175	-304	-316	44.45	42.09	-0.50	3.00	±0.1	1.57	±0.08	42.42	±0.13	1.73	+0.10	22,004	63,656
WZ-175	-304	-316	44.45	42.49	-0.50	3.00	+0.08/-0.12	1.24	±0.08	42.95	±0.13	1.42	+0.10	16,492	50,276
WZT-177	-304	-316	44.98	42.57	-0.50	3.12	±0.1	1.57	±0.08	42.90	±0.13	1.73	+0.10	22,804	64,412
EZ-46	-304	-316	46.00	42.67	-0.50	3.23	±0.1	1.57	±0.08	43.15	±0.15	1.75	+0.10	32,040	65,660
WZ-177	-304	-316	44.98	42.93	-0.50	3.00	+0.08/-0.12	1.24	±0.08	43.38	±0.13	1.42	+0.10	17,826	50,898
WZM-181	-304	-316	46.02	42.93	-0.50	3.25	+0.08/-0.12	1.57	±0.08	43.38	±0.13	1.73	+0.10	29,606	65,879
DNZ-46	-304	-316	46.00	43.05	-0.50	4.01	±0.1	1.69	±0.05	43.50	-0.25	1.85	+0.14	28,023	70,723
WZT-181	-304	-316	46.02	43.54	-0.50	3.12	±0.1	1.57	±0.08	43.94	±0.13	1.73	+0.10	23,338	65,879
EZ-47	-304	-316	47.00	43.81	-0.50	3.99	±0.1	1.57	±0.05	44.31	±0.15	1.75	+0.10	30,900	67,080
WZ-181	-304	-316	46.05	43.94	-0.50	3.00	+0.08/-0.12	1.24	±0.08	44.42	±0.13	1.42	+0.10	18,226	52,099
DNZ-47	-304	-316	47.00	44.04	-0.50	4.01	±0.1	1.69	±0.08	44.50	-0.25	1.85	+0.14	28,633	72,261
EZ-48	-304	-316	48.00	44.48	-0.50	3.99	±0.1	1.57	±0.08	45.05	±0.15	1.75	+0.10	34,600	68,510
WZM-187	-304	-316	47.63	44.48	-0.50	4.01	+0.08/-0.12	1.57	±0.05	44.93	±0.13	1.73	+0.10	31,206	68,191
DNZ-48	-304	-316	48.00	45.03	-0.50	4.01	±0.1	1.69	±0.05	45.50	-0.25	1.85	+0.14	29,242	73,798
WZT-187	-304	-316	47.63	45.06	-0.50	3.12	±0.1	1.57	±0.08	45.47	±0.13	1.73	+0.10	25,338	68,191
WZ-187	-304	-316	47.63	45.44	-0.50	3.25	+0.08/-0.12	1.24	±0.08	45.92	±0.13	1.42	+0.10	20,048	53,877
DNZ-50	-304	-316	50.00	46.53	-0.63	5.08	±0.13	1.93	±0.08	47.00	-0.25	2.15	+0.14	36,552	87,790
EZ-50	-304	-316	50.00	46.69	-0.50	3.99	±0.1	1.57	±0.08	47.05	±0.15	1.75	+0.10	36,040	71,370
WZM-196	-304	-316	50.01	46.69	-0.50	4.01	+0.08/-0.12	1.57	±0.08	47.17	±0.13	1.73	+0.10	34,629	71,613
WZ-193	-304	-316	49.23	46.84	-0.50	3.25	+0.08/-0.12	1.24	±0.08	47.52	±0.13	1.42	+0.10	20,715	55,699
WZT-196	-304	-316	50.01	47.35	-0.50	3.12	±0.1	1.57	±0.08	47.73	±0.13	1.73	+0.10	27,827	71,613
WZM-200	-304	-316	50.80	47.42	-0.50	4.01	+0.08/-0.12	1.57	±0.08	47.90	±0.13	1.73	+0.10	35,829	72,725
WZ-196	-304	-316	50.01	47.80	-0.50	3.25	+0.08/-0.12	1.24	±0.08	48.31	±0.13	1.42	+0.10	21,026	56,588
WZT-200	-304	-316	50.80	48.11	-0.63	3.25	±0.1	1.57	±0.08	48.51	±0.13	1.73	+0.10	28,272	72,725
WZ-200	-304	-316	50.80	48.49	-0.50	3.25	+0.08/-0.12	1.24	±0.08	49.00	±0.13	1.42	+0.10	22,004	57,477
DNZ-52	-304	-316	52.00	48.51	-0.50	5.08	±0.1	1.93	±0.08	49.00	-0.25	2.15	+0.14	38,014	91,302
WZM-206	-304	-316	52.37	49.07	-0.63	4.27	+0.10/-0.15	1.98	±0.08	49.43	±0.15	2.18	+0.13	37,563	94,329
EZ-52	-304	-316	52.00	49.62	-0.50	3.23	±0.1	1.25	±0.08	50.15	±0.15	1.42	+0.10	23,550	59,090
WZT-206	-304	-316	52.37	49.66	-0.63	3.58	±0.1	1.98	±0.08	50.04	±0.15	2.18	+0.13	29,828	94,329

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

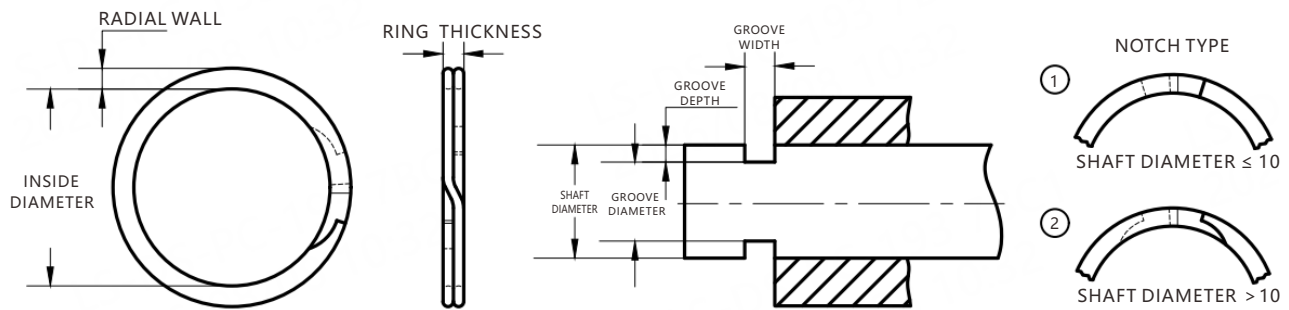
2-Turn Spiral Retaining Rings For Shaft



Lispring Part Number ¹			Shaft Diameter (mm)	Ring					Groove				Thrust Capacity		
Carbon Steel	304 SS	316 SS		Inside Diameter (mm)	Radial Wall (mm)	Thickness (mm)		Diameter (mm)	Width (mm)		Groove Yield (N)	Ring Shear (N)			
	Add Suffix	Add Suffix													
WZ-206	-304	-316	52.37	50.06	-0.50	3.25	+0.08/-0.12	1.24	±0.08	50.60	±0.15	1.42	+0.10	22,671	59,256
DNZ-54	-304	-316	54.00	50.50	-0.63	5.08	±0.13	1.93	±0.08	51.00	-0.30	2.15	+0.14	39,476	94,813
WZM-212	-304	-316	53.98	50.52	-0.63	4.27	+0.1/-0.15	1.98	±0.08	50.88	±0.15	2.18	+0.13	40,719	97,218
EZ-53	-304	-316	53.00	50.62	-0.63	3.23	±0.1	1.25	±0.08	51.15	±0.15	1.42	+0.10	24,000	60,230
WZT-212	-304	-316	53.98	51.10	-0.63	3.58	±0.1	1.98	±0.08	51.49	±0.15	2.18	+0.13	32,717	97,218
WZM-215	-304	-316	54.76	51.26	-0.63	4.27	+0.1/-0.15	1.98	±0.08	51.61	±0.15	2.18	+0.13	42,008	98,641
DNZ-55	-304	-316	55.00	51.49	-0.63	5.08	±0.13	1.93	±0.08	52.00	-0.30	2.15	+0.14	40,207	96,569
WZ-212	-304	-316	53.98	51.54	-0.50	3.25	+0.08/-0.12	1.24	±0.08	52.10	±0.15	1.42	+0.10	24,716	61,078
EZ-54	-304	-316	54.00	51.62	-0.63	3.23	±0.1	1.25	±0.08	52.15	±0.15	1.42	+0.10	24,460	61,370
WZT-215	-304	-316	54.76	51.84	-0.63	3.58	±0.1	1.98	±0.08	52.25	±0.15	2.18	+0.13	33,873	98,641
WZ-215	-304	-316	54.76	52.32	-0.63	3.51	+0.08/-0.12	1.24	±0.08	52.88	±0.15	1.42	+0.10	25,071	61,967
DNZ-56	-304	-316	56.00	52.48	-0.63	5.08	±0.13	1.93	±0.08	53.00	-0.30	2.15	+0.14	40,938	98,325
WZ-216	-304	-316	54.99	52.58	-0.63	3.51	+0.08/-0.12	1.24	±0.08	53.11	±0.15	1.42	+0.10	25,160	62,234
EZ-55	-304	-316	55.00	52.62	-0.63	3.48	±0.1	1.25	±0.08	53.15	±0.15	1.42	+0.10	24,910	62,500
WZ-218	-304	-316	55.58	53.14	-0.63	3.51	+0.08/-0.12	1.24	±0.08	53.67	±0.15	1.42	+0.10	25,427	62,901
WZM-225	-304	-316	57.15	53.47	-0.63	4.27	+0.1/-0.15	1.98	±0.08	53.85	±0.15	2.18	+0.13	45,964	102,953
EZ-56	-304	-316	56.00	53.62	-0.63	3.48	±0.1	1.25	±0.08	54.15	±0.15	1.42	+0.10	25,370	63,640
WZT-225	-304	-316	57.15	54.08	-0.63	3.58	±0.1	1.98	±0.08	54.48	±0.15	2.18	+0.13	37,474	102,953
DNZ-58	-304	-316	58.00	54.43	-0.63	5.08	±0.13	1.93	±0.08	55.00	-0.30	2.15	+0.14	42,400	101,836
WZ-225	-304	-316	57.15	54.69	-0.63	3.51	+0.08/-0.12	1.24	±0.08	55.27	±0.15	1.42	+0.10	26,183	64,679
WZM-231	-304	-316	58.72	54.94	-0.63	4.27	+0.1/-0.15	1.98	±0.08	55.32	±0.15	2.18	+0.13	48,676	105,798
EZ-58	-304	-316	58.00	55.43	-0.63	3.48	±0.1	1.25	±0.08	56.01	±0.15	1.42	+0.10	28,250	65,910
WZT-231	-304	-316	58.72	55.58	-0.63	3.58	±0.1	1.98	±0.08	56.01	±0.15	2.18	+0.13	39,252	105,798
WZ-231	-304	-316	58.72	56.16	-0.63	3.51	+0.08/-0.12	1.24	±0.08	56.74	±0.15	1.42	+0.10	28,316	66,457
DNZ-60	-304	-316	60.00	56.42	-0.63	5.08	±0.13	1.93	±0.08	57.00	-0.30	2.15	+0.14	43,863	105,348
EZ-59	-304	-316	59.00	56.43	-0.63	3.48	±0.1	1.25	±0.08	57.01	±0.15	1.42	+0.10	28,730	67,050
WZM-237	-304	-316	60.33	56.46	-0.63	5.08	+0.1/-0.15	1.98	±0.08	56.87	±0.15	2.18	+0.13	50,765	108,643
WZT-237	-304	-316	60.33	57.10	-0.63	3.58	±0.1	1.98	±0.08	57.53	±0.15	2.18	+0.13	41,030	108,643
EZ-60	-304	-316	60.00	57.43	-0.63	3.48	±0.1	1.25	±0.08	58.01	±0.15	1.42	+0.10	29,220	68,180
WZ-236	-304	-316	59.99	57.43	-0.63	3.51	+0.08/-0.12	1.24	±0.08	58.01	±0.15	1.42	+0.10	28,939	67,879
WZ-237	-304	-316	60.33	57.73	-0.63	3.51	+0.08/-0.12	1.24	±0.08	58.34	±0.15	1.42	+0.10	29,117	68,280
WZM-243	-304	-316	61.90	57.99	-0.63	5.08	+0.1/-0.15	1.98	±0.08	58.39	±0.15	2.18	+0.13	52,854	111,488
EZ-61	-304	-316	61.00	58.36	-0.63	3.48	±0.1	1.25	±0.08	58.91	±0.15	1.42	+0.10	31,190	69,320
DNZ-62	-304	-316	62.00	58.42	-0.63	5.08	±0.13	1.93	±0.08	59.00	-0.30	2.15	+0.14	45,325	108,860
WZT-243	-304	-316	61.90	58.60	-0.63	3.58	±0.1	1.98	±0.08	59.06	±0.15	2.18	+0.13	42,897	111,488
WZ-243	-304	-316	61.90	59.21	-0.63	3.76	+0.08/-0.12	1.24	±0.08	59.82	±0.15	1.42	+0.10	31,384	70,058
EZ-62	-304	-316	62.00	59.30	-0.63	3.74	±0.1	1.25	±0.08	59.91	±0.15	1.42	+0.10	31,710	70,460
DNZ-63	-304	-316	63.00	59.39	-0.63	5.08	±0.13	1.93	±0.08	60.00	-0.30	2.15	+0.14	46,056	110,615
WZM-250	-304	-316	63.50	59.51	-0.63	5.08	+0.1/-0.15	1.98	±0.08	59.94	±0.15	2.18	+0.13	54,988	114,377
WZT-250	-304	-316	63.50	60.10	-0.63	4.78	±0.13	1.98	±0.08	60.58	±0.15	2.18	+0.13	45,564	114,377
EZ-63	-304	-316	63.00	60.30	-0.63	3.74	±0.1	1.25	±0.08	60.91	±0.15	1.42	+0.10	32,220	71,590
WZ-250	-304	-316	63.50	60.81	-0.63	3.76	+0.08/-0.12	1.24	±0.08	61.42	±0.15	1.42	+0.10	32,228	71,836
WZM-255	-304	-316	65.00	61.01	-0.63	5.08	+0.1/-0.15	1.98	±0.08	61.44	±0.15	2.18	+0.13	56,277	117,089
EZ-64	-304	-316	64.00	61.25	-0.63	3.74	±0.1	1.25	±0.08	61.91	±0.15	1.42	+0.10	32,730	72,730
DNZ-65	-304	-316	65.00	61.39	-0.63	5.08	±0.13	2.41	±0.08	62.00	-0.30	2.65	+0.14	47,518	135,725
WZT-255	-304	-316	65.00	61.57	-0.63	4.78	±0.13	1.98	±0.08	62.05	±0.15	2.18	+0.13	46,631	117,089
EZ-65	-304	-316	65.00	62.20	-0.63	3.74	±0.1	1.25	±0.08	62.81	±0.15	1.42	+0.10	34,820	73,870
WZ-255	-304	-316	65.00	62.20	-0.63	3.76	+0.08/-0.12	1.24	±0.08	62.81	±0.15	1.42	+0.10	34,584	73,569

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

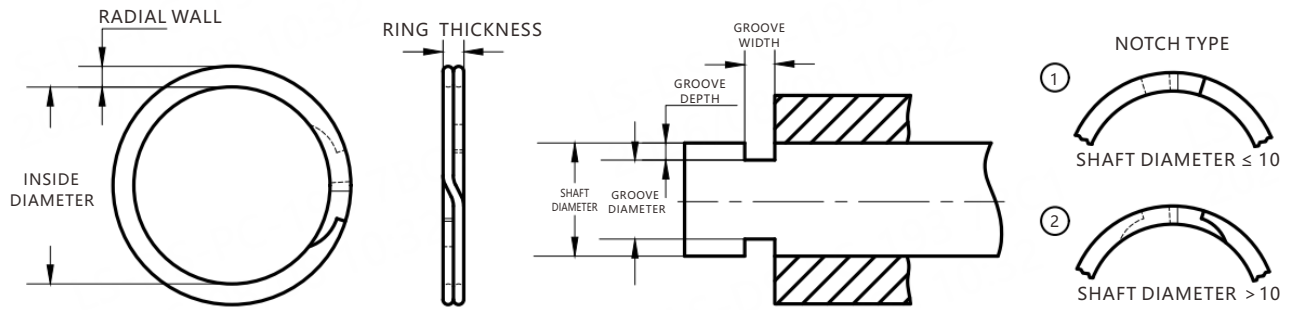
2-Turn Spiral Retaining Rings For Shaft



Lispring Part Number ¹			Shaft Diameter (mm)	Ring					Groove			Thrust Capacity			
Carbon Steel	304 SS	316 SS		Inside Diameter (mm)	Radial Wall (mm)	Thickness (mm)	Diameter (mm)	Width (mm)	Groove Yield (N)	Ring Shear (N)					
	Add Suffix	Add Suffix													
WZ-256	-304	-316	65.07	62.28	-0.63	3.76	+0.08/-0.12	1.24	±0.08	62.89	±0.15	1.42	+0.10	34,629	73,614
WZM-262	-304	-316	66.68	62.59	-0.63	5.08	+0.1/-0.15	1.98	±0.08	63.02	±0.15	2.18	+0.13	59,389	120,111
WZT-262	-304	-316	66.68	63.12	-0.63	4.78	±0.13	1.98	±0.08	63.63	±0.15	2.18	+0.13	49,476	120,111
EZ-66	-304	-316	66.00	63.16	-0.63	3.74	±0.1	1.25	±0.08	63.79	±0.15	1.42	+0.10	35,680	75,000
DNZ-67	-304	-316	67.00	63.37	-0.63	5.08	±0.13	2.41	±0.08	64.00	±0.30	2.65	+0.14	48,980	139,901
WZ-262	-304	-316	66.68	63.86	-0.63	3.76	+0.08/-0.12	1.24	±0.08	64.49	±0.15	1.42	+0.10	35,473	75,436
WZM-268	-304	-316	68.25	64.08	-0.63	5.08	+0.1/-0.15	1.98	±0.08	64.54	±0.15	2.18	+0.13	61,656	122,956
EZ-67	-304	-316	67.00	64.16	-0.63	3.74	±0.1	1.25	±0.08	64.71	±0.15	1.42	+0.10	37,530	76,140
DNZ-68	-304	-316	68.00	64.34	-0.76	5.08	±0.13	2.41	±0.08	65.00	±0.30	2.65	+0.14	49,711	141,989
WZT-268	-304	-316	68.25	64.64	-0.63	4.78	±0.13	1.98	±0.08	65.15	±0.15	2.18	+0.13	51,521	122,956
EZ-68	-304	-316	68.00	65.08	-0.63	3.99	±0.1	1.25	±0.08	65.71	±0.15	1.42	+0.10	38,090	77,270
WZ-268	-304	-316	68.28	65.33	-0.63	4.01	+0.08/-0.12	1.24	±0.08	65.96	±0.15	1.42	+0.10	38,007	77,259
WZM-275	-304	-316	69.85	65.63	-0.76	5.72	+0.1/-0.15	2.36	±0.08	66.09	±0.15	2.62	+0.13	63,968	142,871
EZ-69	-304	-316	69.00	66.06	-0.63	3.99	±0.1	1.25	±0.08	66.71	±0.15	1.42	+0.10	38,650	78,410
WZT-275	-304	-316	69.85	66.14	-0.76	4.78	±0.13	2.36	±0.08	66.68	±0.15	2.62	+0.13	54,455	142,871
DNZ-70	-304	-316	70.00	66.34	-0.76	5.08	±0.13	2.41	±0.08	67.00	±0.30	2.65	+0.14	51,173	146,165
WZ-275	-304	-316	69.85	66.93	-0.76	4.01	+0.08/-0.12	1.24	±0.08	67.56	±0.15	1.42	+0.10	38,896	79,037
EZ-70	-304	-316	70.00	67.08	-0.76	3.99	±0.1	1.25	±0.08	67.71	±0.15	1.42	+0.10	39,210	79,550
EZ-71	-304	-316	71.00	68.04	-0.76	3.99	±0.1	1.25	±0.08	68.71	±0.15	1.42	+0.10	39,770	80,680
DNZ-72	-304	-316	72.00	68.33	-0.76	5.08	±0.13	2.41	±0.08	69.00	±0.30	2.65	+0.14	52,635	150,341
WZ-281	-304	-316	71.45	68.48	-0.76	4.27	+0.1/-0.15	1.24	±0.08	69.14	±0.15	1.42	+0.10	39,785	80,860
WZM-287	-304	-316	73.03	68.63	-0.76	5.72	+0.1/-0.15	2.36	±0.08	69.11	±0.15	2.62	+0.13	69,569	149,361
EZ-72	-304	-316	72.00	69.00	-0.76	4.24	±0.13	1.25	±0.08	69.65	±0.15	1.42	+0.10	41,380	81,820
WZT-287	-304	-316	73.03	69.14	-0.76	4.78	±0.13	2.36	±0.08	69.65	±0.15	2.62	+0.13	60,545	149,361
WZ-287	-304	-316	73.03	69.98	-0.76	4.27	+0.1/-0.15	1.24	±0.08	70.64	±0.15	1.42	+0.10	42,452	82,638
WZM-293	-304	-316	74.60	70.10	-0.76	5.72	+0.1/-0.15	2.36	±0.08	70.59	±0.15	2.62	+0.13	72,903	152,562
WZT-293	-304	-316	74.60	70.61	-0.76	4.78	±0.13	2.36	±0.08	71.15	±0.15	2.62	+0.13	62,767	152,562
DNZ-75	-304	-316	75.00	71.33	-0.76	5.08	±0.13	2.41	±0.08	72.00	±0.30	2.65	+0.14	54,828	156,605
WZ-293	-304	-316	74.60	71.55	-0.76	4.27	+0.1/-0.15	1.24	±0.08	72.21	±0.15	1.42	+0.10	43,386	84,416
WZM-300	-304	-316	76.20	71.58	-0.76	5.72	+0.1/-0.15	2.36	±0.08	72.09	±0.15	2.62	+0.13	76,370	155,852
WZ-295	-304	-316	74.98	71.91	-0.76	4.27	+0.1/-0.15	1.24	±0.08	72.59	±0.15	1.42	+0.10	43,608	84,860
EZ-75	-304	-316	75.00	71.93	-0.76	4.24	±0.13	1.25	±0.08	72.61	±0.15	1.42	+0.10	43,830	85,230
WZT-300	-304	-316	76.20	72.09	-0.76	4.78	±0.13	2.36	±0.08	72.64	±0.15	2.62	+0.13	65,968	155,852
WZ-300	-304	-316	76.20	73.08	-0.76	4.27	+0.1/-0.15	1.55	±0.08	73.76	±0.15	1.73	+0.13	45,253	107,354
WZM-306	-304	-316	77.77	73.10	-0.76	5.72	+0.1/-0.15	2.36	±0.08	73.61	±0.15	2.62	+0.13	78,904	159,097
DNZ-77	-304	-316	77.00	73.33	-0.76	5.08	±0.13	2.41	±0.08	74.00	±0.30	2.65	+0.14	56,290	160,782
WZT-306	-304	-316	77.77	73.58	-0.76	4.78	±0.13	2.36	±0.08	74.17	±0.15	2.62	+0.13	68,324	159,097
DNZ-78	-304	-316	78.00	74.33	-0.76	5.08	±0.13	2.41	±0.08	75.00	±0.08	2.65	+0.08	57,021	162,870
WZM-312	-304	-316	79.38	74.57	-0.76	5.72	+0.1/-0.15	2.36	±0.08	75.11	±0.15	2.62	+0.13	82,504	162,342
WZ-306	-304	-316	77.77	74.63	-0.76	4.27	+0.1/-0.15	1.55	±0.08	75.34	±0.15	1.73	+0.13	46,186	109,576
EZ-78	-304	-316	78.00	74.84	-0.76	4.24	±0.13	1.55	±0.08	75.55	±0.15	1.73	+0.10	46,730	109,910
WZT-312	-304	-316	79.38	75.11	-0.76	4.78	±0.13	2.36	±0.08	75.69	±0.15	2.62	+0.13	71,702	162,342
WZM-315	-304	-316	80.16	75.31	-0.76	5.72	+0.1/-0.15	2.36	±0.08	75.84	±0.15	2.62	+0.13	84,283	163,942
DNZ-80	-304	-316	80.00	75.81	-0.76	6.05	±0.13	2.41	±0.08	76.50	±0.30	2.65	+0.14	68,231	167,046
WZT-315	-304	-316	80.16	75.84	-0.76	4.78	±0.13	2.36	±0.08	76.45	±0.15	2.62	+0.13	72,414	163,942
WZ-312	-304	-316	79.38	76.20	-0.76	4.52	+0.1/-0.15	1.55	±0.08	76.89	±0.15	1.73	+0.13	48,098	111,799
WZ-314	-304	-316	79.98	76.78	-0.76	4.52	+0.1/-0.15	1.55	±0.08	77.50	±0.15	1.73	+0.13	48,498	112,688
EZ-80	-304	-316	80.00	76.80	-0.76	4.50	±0.13	1.55	±0.08	77.51	±0.15	1.73	+0.13	48,700	112,730

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

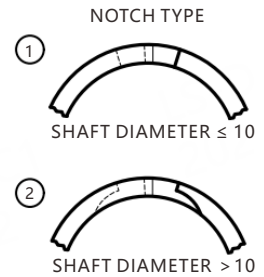
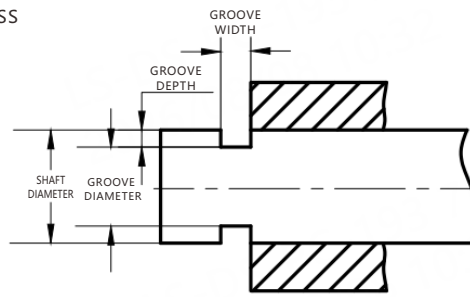
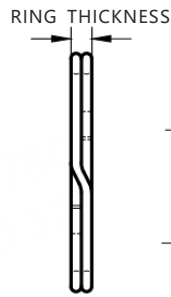
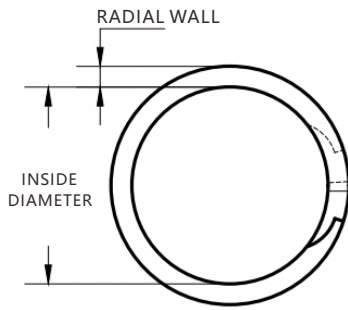
2-Turn Spiral Retaining Rings For Shaft



Lispring Part Number ¹			Shaft Diameter (mm)	Ring					Groove			Thrust Capacity			
Carbon Steel	304 SS	316 SS		Inside Diameter (mm)	Radial Wall (mm)		Thickness (mm)		Diameter (mm)	Width (mm)		Groove Yield (N)	Ring Shear (N)		
	Add Suffix	Add Suffix													
WZM-325	-304	-316	82.55	77.57	-0.76	5.72	+0.1/-0.15	2.36	+0.08	78.13	+0.15	2.62	+0.13	88,861	168,832
WZ-318	-304	-316	80.95	77.75	-0.76	4.52	+0.1/-0.15	1.55	+0.08	78.46	+0.15	1.73	+0.13	49,076	114,021
DNZ-82	-304	-316	82.00	77.81	-0.76	6.05	+0.13	2.41	+0.08	78.50	+0.30	2.65	+0.14	69,936	171,222
WZT-325	-304	-316	82.55	78.11	-0.76	4.78	+0.13	2.36	+0.08	78.74	+0.15	2.62	+0.13	76,592	168,832
EZ-82	-304	-316	82.00	78.72	-0.76	4.50	+0.13	1.55	+0.08	79.45	+0.15	1.73	+0.13	51,120	115,550
WZ-325	-304	-316	82.55	79.27	-0.76	4.52	+0.1/-0.15	1.55	+0.08	80.01	+0.15	1.73	+0.13	51,076	116,289
WZM-334	-304	-316	84.94	79.86	-0.76	5.72	+0.1/-0.15	2.36	+0.08	80.42	+0.15	2.62	+0.13	93,529	173,722
WZT-334	-304	-316	84.94	80.37	-0.76	4.78	+0.13	2.36	+0.08	81.03	+0.15	2.62	+0.13	80,904	173,722
WZ-331	-304	-316	84.12	80.77	-0.76	4.78	+0.1/-0.15	1.55	+0.08	81.48	+0.15	1.73	+0.13	54,099	118,511
DNZ-85	-304	-316	85.00	80.80	-0.76	6.27	+0.13	2.91	+0.08	81.50	+0.35	3.15	+0.18	72,495	214,309
WZ-334	-304	-316	84.91	81.53	-0.76	4.78	+0.1/-0.15	1.55	+0.08	82.27	+0.15	1.73	+0.13	54,632	119,622
EZ-85	-304	-316	85.00	81.62	-0.76	4.75	+0.13	1.55	+0.08	82.35	+0.15	1.73	+0.13	55,060	119,780
WZM-343	-304	-316	87.30	82.14	-0.76	5.72	+0.1/-0.15	2.36	+0.08	82.73	+0.15	2.62	+0.13	97,218	178,567
WZ-337	-304	-316	85.73	82.35	-0.76	4.78	+0.1/-0.15	1.55	+0.08	83.08	+0.15	1.73	+0.13	55,166	120,778
WZT-343	-304	-316	87.30	82.65	-0.76	4.78	+0.13	2.36	+0.08	83.31	+0.15	2.62	+0.13	85,305	178,567
WZM-350	-304	-316	88.90	83.64	-0.88	6.86	+0.1/-0.15	2.82	+0.08	84.23	+0.15	3.05	+0.13	101,175	217,019
DNZ-88	-304	-316	88.00	83.80	-0.89	6.27	+0.13	2.91	+0.08	84.50	+0.35	3.15	+0.18	75,054	221,873
WZ-343	-304	-316	87.30	83.85	-0.76	4.78	+0.1/-0.15	1.55	+0.08	84.61	+0.15	1.73	+0.13	57,255	122,956
WZT-350	-304	-316	88.90	84.20	-1.02	6.35	+0.13	2.82	+0.08	84.84	+0.15	3.05	+0.13	87,972	217,019
EZ-88	-304	-316	88.00	84.53	-0.76	4.75	+0.13	1.55	+0.08	85.31	+0.15	1.73	+0.13	57,860	124,000
WZM-354	-304	-316	89.99	84.66	-0.88	6.86	+0.1/-0.15	2.82	+0.08	85.27	+0.15	3.05	+0.13	103,531	219,686
WZT-354	-304	-316	89.99	85.24	-1.02	6.35	+0.13	2.82	+0.08	85.88	+0.15	3.05	+0.13	90,195	219,686
WZ-350	-304	-316	88.90	85.42	-1.02	4.78	+0.1/-0.15	1.55	+0.08	86.21	+0.15	1.73	+0.13	58,278	125,224
DNZ-90	-304	-316	90.00	85.80	-0.89	6.27	+0.13	2.91	+0.08	86.50	+0.35	3.15	+0.18	76,759	226,915
WZ-354	-304	-316	89.99	86.41	-1.02	5.03	+0.1/-0.15	1.55	+0.08	87.20	+0.15	1.73	+0.13	61,212	126,779
EZ-90	-304	-316	90.00	86.43	-0.76	5.01	+0.13	1.55	+0.08	87.21	+0.15	1.73	+0.13	61,370	126,820
WZM-362	-304	-316	92.08	86.64	-0.88	6.86	+0.1/-0.15	2.82	+0.08	87.25	+0.15	3.05	+0.13	108,198	224,753
WZ-356	-304	-316	90.47	86.92	-1.02	5.03	+0.1/-0.15	1.55	+0.08	87.68	+0.15	1.73	+0.13	61,567	127,446
WZT-362	-304	-316	92.08	87.20	-1.02	6.35	+0.13	2.82	+0.08	87.83	+0.15	3.05	+0.13	95,662	224,753
WZM-368	-304	-316	93.65	88.11	-0.88	6.86	+0.1/-0.15	2.82	+0.08	88.72	+0.15	3.05	+0.13	112,377	228,621
WZ-362	-304	-316	92.08	88.47	-1.02	5.03	+0.1/-0.15	1.55	+0.08	89.28	+0.15	1.73	+0.13	62,634	129,713
WZT-368	-304	-316	93.65	88.65	-1.02	6.35	+0.13	2.82	+0.08	89.33	+0.15	3.05	+0.13	98,463	228,621
WZM-375	-304	-316	95.25	89.59	-0.88	6.86	+0.1/-0.15	2.82	+0.08	90.22	+0.15	3.05	+0.13	116,644	232,533
WZ-368	-304	-316	93.65	89.99	-1.02	5.03	+0.1/-0.15	1.55	+0.08	90.81	+0.15	1.73	+0.13	64,901	131,936
WZT-375	-304	-316	95.25	90.17	-1.02	6.35	+0.13	2.82	+0.08	90.86	+0.15	3.05	+0.13	102,508	232,533
DNZ-95	-304	-316	95.00	90.80	-0.89	6.27	+0.13	2.91	+0.08	91.50	+0.35	3.15	+0.18	81,024	239,522
WZ-374	-304	-316	95.00	91.36	-1.02	5.03	+0.1/-0.15	1.55	+0.08	92.15	+0.15	1.73	+0.13	65,790	133,803
EZ-95	-304	-316	95.00	91.37	-0.76	5.01	+0.13	1.55	+0.08	92.15	+0.15	1.73	+0.13	66,160	133,870
WZ-375	-304	-316	95.25	91.59	-1.02	5.03	+0.1/-0.15	1.55	+0.08	92.41	+0.15	1.73	+0.13	65,968	134,159
WZM-387	-304	-316	98.43	92.63	-0.88	6.86	+0.1/-0.15	2.82	+0.08	93.29	+0.15	3.05	+0.13	123,001	240,267
WZ-381	-304	-316	96.82	93.17	-1.02	5.03	+0.1/-0.15	1.55	+0.08	93.98	+0.15	1.73	+0.13	67,079	136,381
WZT-387	-304	-316	98.43	93.22	-1.02	6.35	+0.13	2.82	+0.08	93.88	+0.15	3.05	+0.13	109,576	240,267
DNZ-98	-304	-316	98.00	93.79	-0.89	6.27	+0.13	2.91	+0.08	94.50	+0.35	3.15	+0.18	83,583	247,086
WZM-393	-304	-316	100.03	94.18	-0.88	6.86	+0.1/-0.15	2.82	+0.08	94.84	+0.15	3.05	+0.13	126,201	244,179
WZ-387	-304	-316	98.43	94.59	-1.02	5.28	+0.1/-0.15	1.55	+0.08	95.43	+0.15	1.73	+0.13	71,836	138,648
WZT-393	-304	-316	100.03	94.74	-1.02	6.35	+0.13	2.82	+0.08	95.40	+0.15	3.05	+0.13	112,599	244,179
WZM-400	-304	-316	101.60	95.63	-0.88	6.86	+0.1/-0.15	2.82	+0.08	96.32	+0.15	3.05	+0.13	130,736	248,047
DNZ-100	-304	-316	100.00	95.79	-1.30	6.27	+0.13	2.91	+0.08	96.50	+0.35	3.15	+0.18	85,288	252,128

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

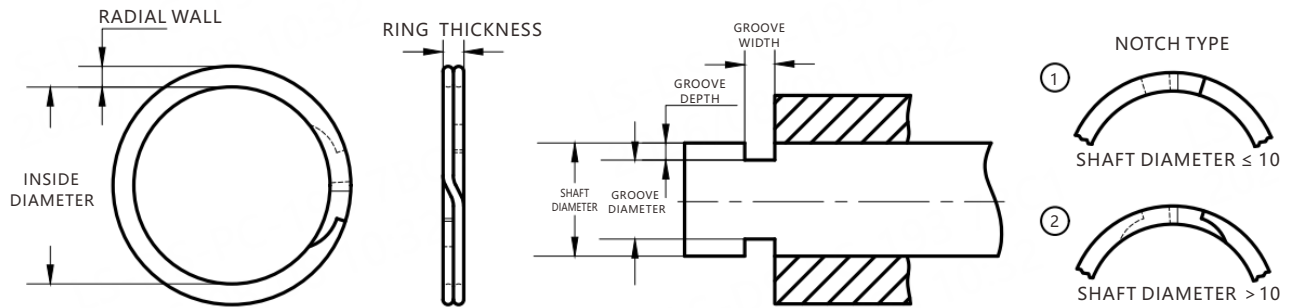
2-Turn Spiral Retaining Rings For Shaft



Lispring Part Number ¹			Shaft Diameter (mm)	Ring						Groove			Thrust Capacity		
Carbon Steel	304 SS	316 SS		Inside Diameter (mm)		Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)
	Add Suffix	Add Suffix													
EZ-100	-304	-316	100.00	96.10	-1.00	5.26	+0.13	1.55	+0.08	97.01	+0.15	1.73	+0.13	73,050	140,910
WZ-393	-304	-316	100.03	96.11	-1.02	5.28	+0.1/-0.15	1.55	+0.08	97.03	+0.15	1.73	+0.13	72,991	140,915
WZT-400	-304	-316	101.60	96.19	-1.02	6.35	+0.13	2.82	+0.08	96.90	+0.15	3.05	+0.13	116,911	248,047
DNZ-102	-304	-316	102.00	97.29	-1.30	6.73	+0.13	3.89	+0.10	98.00	-0.54	4.15	+0.18	99,422	343,778
WZ-400	-304	-316	101.60	97.59	-1.02	5.54	+0.1/-0.15	1.55	+0.08	98.45	+0.15	1.73	+0.13	77,926	143,138
WZ-406	-304	-316	103.20	99.21	-1.02	5.54	+0.1/-0.15	1.55	+0.08	100.05	+0.15	1.73	+0.13	79,170	145,361
DNZ-105	-304	-316	105.00	100.28	-1.30	6.73	+0.13	3.89	+0.10	101.00	-0.54	4.15	+0.08	102,346	353,889
WZ-412	-304	-316	104.78	100.76	-1.02	5.54	+0.1/-0.15	1.55	+0.08	101.60	+0.15	1.73	+0.13	80,371	147,583
EZ-105	-304	-316	105.00	100.94	-1.00	5.51	+0.13	1.55	+0.08	101.85	+0.15	1.73	+0.13	80,780	147,960
WZ-413	-304	-316	105.00	100.97	-1.02	5.54	+0.1/-0.15	1.55	+0.08	101.85	+0.15	1.73	+0.13	80,548	147,894
WZ-418	-304	-316	106.38	102.36	-1.02	5.54	+0.1/-0.15	1.55	+0.08	103.07	+0.15	1.73	+0.13	85,527	149,850
WZT-425	-304	-316	107.95	102.41	-1.02	6.35	+0.13	2.82	+0.08	103.25	+0.15	3.05	+0.13	124,201	263,516
WZM-425	-304	-316	107.95	102.54	-0.88	6.86	+0.1/-0.15	2.82	+0.08	103.25	+0.15	3.05	+0.13	124,201	263,516
DNZ-108	-304	-316	108.00	103.25	-1.30	6.73	+0.13	3.89	+0.10	104.00	-0.54	4.15	+0.18	105,270	364,000
WZ-425	-304	-316	107.95	103.73	-1.02	5.79	+0.1/-0.15	1.55	+0.08	104.65	+0.15	1.73	+0.13	86,816	152,073
DNZ-110	-304	-316	110.00	105.23	-1.30	6.73	+0.13	3.89	+0.10	106.00	-0.54	4.15	+0.18	107,220	370,741
WZ-431	-304	-316	109.52	105.33	-1.02	5.79	+0.1/-0.15	1.55	+0.08	106.22	+0.15	1.73	+0.13	88,061	154,296
WZM-437	-304	-316	111.13	105.69	-0.88	6.86	+0.1/-0.15	2.82	+0.08	106.43	+0.15	3.05	+0.13	127,846	271,295
WZT-437	-304	-316	111.13	105.71	-1.02	6.35	+0.13	2.82	+0.08	106.43	+0.15	3.05	+0.13	127,846	271,295
EZ-110	-304	-316	110.00	105.75	-1.00	5.77	+0.13	1.55	+0.08	106.69	+0.15	1.73	+0.13	88,930	155,000
WZ-433	-304	-316	110.01	105.77	-1.02	5.79	+0.1/-0.15	1.55	+0.08	106.68	+0.15	1.73	+0.13	88,461	154,962
WZ-437	-304	-316	111.13	106.88	-1.02	5.79	+0.1/-0.15	1.55	+0.08	107.82	+0.15	1.73	+0.13	89,350	156,518
WZ-443	-304	-316	112.70	108.48	-1.02	5.79	+0.1/-0.15	1.55	+0.08	109.40	+0.15	1.73	+0.13	90,639	158,741
WZT-450	-304	-316	114.30	108.71	-1.02	6.35	+0.13	2.82	+0.08	109.47	+0.15	3.05	+0.13	134,336	279,030
WZM-450	-304	-316	114.30	108.71	-0.88	6.86	+0.1/-0.15	2.82	+0.08	109.47	+0.15	3.05	+0.13	134,336	279,030
WZ-450	-304	-316	114.30	109.88	-1.02	6.05	+0.1/-0.15	1.55	+0.08	110.85	+0.15	1.73	+0.13	96,151	161,008
DNZ-115	-304	-316	115.00	110.19	-1.30	6.73	+0.13	3.89	+0.10	111.00	-0.54	4.15	+0.18	112,093	387,593
EZ-115	-304	-316	115.00	110.59	-1.00	6.02	+0.13	1.55	+0.08	111.55	+0.15	1.73	+0.13	96,890	162,050
WZ-456	-304	-316	115.87	111.35	-1.02	6.35	+0.1/-0.15	1.83	+0.10	112.32	+0.15	2.01	+0.13	100,330	192,658
WZ-462	-304	-316	117.48	112.95	-1.02	6.35	+0.1/-0.15	1.83	+0.10	113.92	+0.15	2.01	+0.13	101,752	195,326
WZ-468	-304	-316	119.05	114.50	-1.02	6.35	+0.1/-0.15	1.83	+0.10	115.49	+0.15	2.01	+0.13	103,086	197,948
WZT-475	-304	-316	120.65	114.68	-1.02	6.35	+0.13	2.82	+0.08	115.57	+0.15	3.05	+0.13	149,273	294,544
WZM-475	-304	-316	120.65	114.76	-0.88	6.86	+0.1/-0.15	2.82	+0.08	115.57	+0.15	3.05	+0.13	164,164	294,544
DNZ-120	-304	-316	120.00	115.16	-1.30	6.73	+0.13	3.89	+0.10	116.00	-0.54	4.15	+0.18	116,967	404,445
WZ-472	-304	-316	119.99	115.47	-1.02	6.35	+0.1/-0.15	1.83	+0.10	116.43	+0.15	2.01	+0.13	103,886	199,504
EZ-120	-304	-316	120.00	115.49	-1.00	6.33	+0.13	1.83	+0.10	116.45	+0.15	2.00	+0.13	104,030	199,640
WZ-475	-304	-316	120.65	116.10	-1.02	6.35	+0.1/-0.15	1.83	+0.10	117.09	+0.15	2.01	+0.13	104,464	200,615
WZ-481	-304	-316	122.22	117.68	-1.02	6.35	+0.1/-0.15	1.83	+0.10	118.67	+0.15	2.01	+0.13	105,842	203,238
WZ-487	-304	-316	123.83	119.25	-1.02	6.35	+0.1/-0.15	1.83	+0.10	120.27	+0.15	2.01	+0.13	107,220	205,861
DNZ-125	-304	-316	125.00	120.12	-1.30	6.73	+0.13	3.89	+0.10	121.00	-0.63	4.15	+0.18	121,840	421,297
EZ-125	-304	-316	125.00	120.44	-1.00	6.33	+0.13	1.83	+0.10	121.45	+0.15	2.00	+0.13	108,360	207,960
WZT-500	-304	-316	127.00	120.78	-1.02	6.35	+0.13	2.82	+0.10	121.67	+0.15	3.05	+0.13	164,964	310,014
WZM-500	-304	-316	127.00	120.80	-0.88	6.86	+0.1/-0.15	2.82	+0.10	121.67	+0.15	3.05	+0.13	164,964	310,014
WZ-493	-304	-316	125.40	120.83	-1.02	6.35	+0.1/-0.15	1.83	+0.10	121.84	+0.15	2.01	+0.13	108,598	208,484
WZ-500	-304	-316	127.00	122.43	-1.02	6.35	+0.1/-0.15	1.83	+0.10	123.34	+0.15	2.01	+0.13	113,132	211,151
DNZ-130	-304	-316	130.00	125.07	-1.30	6.73	+0.13	3.89	+0.10	126.00	-0.63	4.15	+0.18	126,714	438,149
WZ-511	-304	-316	130.00	125.32	-1.02	6.35	+0.1/-0.15	1.83	+0.10	126.34	+0.15	2.01	+0.13	115,800	216,130
EZ-130	-304	-316	130.00	125.34	-1.00	6.33	+0.13	1.83	+0.10	126.35	+0.15	2.00	+0.13	115,860	216,280

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

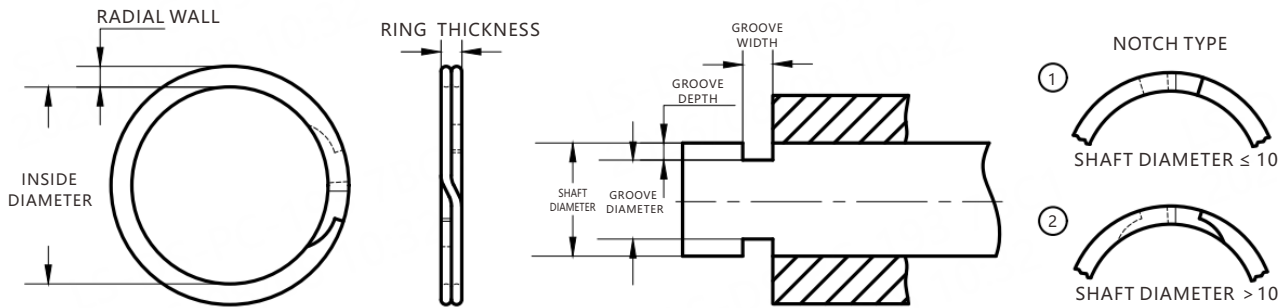
2-Turn Spiral Retaining Rings For Shaft



Lispring Part Number ¹			Shaft Diameter (mm)	Ring					Groove			Thrust Capacity			
Carbon Steel	304 SS	316 SS		Inside Diameter (mm)	Radial Wall (mm)	Thickness (mm)		Diameter (mm)	Width (mm)		Groove Yield (N)	Ring Shear (N)			
	Add Suffix	Add Suffix													
WZ-512	-304	-316	130.18	125.45	-1.02	6.35	+0.1/-0.15	1.83	±0.10	126.52	±0.15	2.01	+0.13	115,933	216,441
WZM-525	-304	-316	133.35	126.87	-1.27	8.89	+0.1/-0.2	3.23	±0.10	127.76	±0.18	3.53	+0.15	181,456	372,470
WZT-525	-304	-316	133.35	126.87	-1.27	9.53	+0.15	3.23	±0.10	127.76	±0.18	3.53	+0.15	181,456	372,470
WZ-525	-304	-316	133.35	128.63	-1.27	6.35	+0.1/-0.15	1.83	±0.10	129.72	±0.18	2.01	+0.13	118,778	221,731
DNZ-135	-304	-316	135.00	130.02	-1.30	6.73	+0.13	3.89	±0.10	131.00	-0.63	4.15	+0.18	131,588	455,001
EZ-135	-304	-316	135.00	130.20	-1.00	6.33	+0.13	1.83	±0.10	131.27	±0.18	2.00	+0.13	122,950	224,600
WZ-537	-304	-316	136.53	131.75	-1.27	6.35	+0.1/-0.15	1.83	±0.10	132.79	±0.18	2.01	+0.13	125,001	226,976
WZM-550	-304	-316	139.70	132.79	-1.27	8.89	+0.1/-0.2	3.23	±0.10	133.73	±0.18	3.53	+0.15	203,949	390,207
WZT-550	-304	-316	139.70	132.82	-1.27	9.53	+0.15	3.23	±0.10	133.73	±0.18	3.53	+0.15	203,949	390,207
WZ-550	-304	-316	139.70	134.82	-1.27	6.35	+0.1/-0.15	1.83	±0.10	135.97	±0.18	2.01	+0.13	127,891	232,266
DNZ-140	-304	-316	140.00	134.98	-1.30	6.73	+0.13	3.89	±0.10	136.00	-0.63	4.15	+0.18	136,461	471,852
WZ-551	-304	-316	139.98	135.13	-1.27	6.35	+0.1/-0.15	1.83	±0.10	136.25	±0.18	2.01	+0.13	128,157	232,755
EZ-140	-304	-316	140.00	135.14	-1.30	6.33	+0.13	1.83	±0.10	136.25	±0.18	2.00	+0.13	128,190	232,920
WZ-562	-304	-316	142.88	138.00	-1.27	6.35	+0.1/-0.15	1.83	±0.10	139.14	±0.18	2.01	+0.13	130,780	237,556
WZM-575	-304	-316	146.05	138.84	-1.27	8.89	+0.1/-0.2	3.23	±0.10	139.83	±0.18	3.53	+0.15	222,220	407,943
WZT-575	-304	-316	146.05	138.84	-1.27	9.53	+0.15	3.23	±0.10	139.83	±0.18	3.53	+0.15	222,220	407,943
DNZ-145	-304	-316	145.00	139.93	-1.30	6.73	+0.13	3.89	±0.10	141.00	-0.63	4.15	+0.18	141,335	488,704
EZ-145	-304	-316	145.00	140.00	-1.30	6.33	+0.13	1.83	±0.10	141.17	±0.18	2.00	+0.13	135,590	241,230
WZ-575	-304	-316	146.05	140.97	-1.27	6.35	+0.1/-0.15	1.83	±0.10	142.16	±0.18	2.01	+0.13	139,137	242,846
DNZ-150	-304	-316	150.00	143.91	-1.52	7.92	+0.15	3.89	±0.10	145.00	-0.63	4.15	+0.18	182,761	505,556
WZ-587	-304	-316	149.23	144.12	-1.27	6.35	+0.1/-0.15	1.83	±0.10	145.34	±0.18	2.01	+0.13	142,160	248,091
WZ-590	-304	-316	149.99	144.91	-1.27	6.35	+0.1/-0.15	1.83	±0.10	146.10	±0.18	2.01	+0.13	142,871	249,380
WZM-600	-304	-316	152.40	144.91	-1.27	8.89	+0.1/-0.2	3.23	±0.10	145.92	±0.18	3.53	+0.15	241,334	425,680
WZT-600	-304	-316	152.40	144.91	-1.27	9.53	+0.15	3.23	±0.10	145.92	±0.18	3.53	+0.15	241,334	425,680
EZ-150	-304	-316	150.00	145.00	-1.30	6.33	+0.13	1.83	±0.10	146.17	±0.18	2.00	+0.13	140,260	249,550
WZ-600	-304	-316	152.40	147.27	-1.27	6.35	+0.1/-0.15	1.83	±0.10	148.51	±0.18	2.01	+0.13	145,183	253,381
DNZ-155	-304	-316	155.00	148.89	-1.52	7.92	+0.15	3.89	±0.10	150.00	-0.63	4.15	+0.18	188,853	522,408
EZ-155	-304	-316	155.00	149.33	-1.30	7.88	+0.15	2.18	±0.10	150.60	±0.20	2.40	+0.13	166,080	307,190
WZ-612	-304	-316	155.58	149.94	-1.27	7.92	+0.1/-0.2	2.18	±0.10	151.21	±0.20	2.39	+0.15	165,498	308,947
WZM-625	-304	-316	158.75	150.83	-1.52	10.62	+0.1/-0.2	3.96	±0.13	152.02	±0.20	4.42	+0.20	261,205	544,636
WZ-625	-304	-316	158.75	153.06	-1.52	7.92	+0.1/-0.2	2.18	±0.10	154.38	±0.20	2.39	+0.15	168,876	315,259
DNZ-160	-304	-316	160.00	153.85	-1.52	7.92	+0.15	3.89	±0.10	155.00	-0.63	4.15	+0.18	194,945	539,260
EZ-160	-304	-316	160.00	154.31	-1.52	7.88	+0.15	2.18	±0.10	155.60	±0.20	2.40	+0.15	171,430	317,100
WZ-629	-304	-316	159.99	154.33	-1.52	7.92	+0.1/-0.2	2.18	±0.10	155.63	±0.20	2.39	+0.15	170,210	317,749
WZ-637	-304	-316	161.93	156.26	-1.52	7.92	+0.1/-0.2	2.18	±0.10	157.56	±0.20	2.39	+0.15	172,255	321,572
WZM-650	-304	-316	165.10	157.00	-1.52	10.62	+0.1/-0.2	3.96	±0.13	158.12	±0.20	4.42	+0.20	281,875	566,418
DNZ-165	-304	-316	165.00	158.80	-1.52	7.92	+0.15	3.89	±0.10	160.00	-0.63	4.15	+0.18	201,037	556,112
EZ-165	-304	-316	165.00	159.23	-1.52	7.88	+0.15	2.18	±0.10	160.60	±0.20	2.40	+0.15	176,790	327,010
WZ-650	-304	-316	165.10	159.36	-1.52	7.92	+0.1/-0.2	2.18	±0.10	160.73	±0.20	2.39	+0.15	175,633	327,884
WZ-662	-304	-316	168.28	162.31	-1.52	7.92	+0.1/-0.2	2.18	±0.10	163.65	±0.20	2.39	+0.15	189,458	334,196
WZM-675	-304	-316	171.45	162.81	-1.52	10.62	+0.1/-0.2	3.96	±0.13	164.21	±0.20	4.42	+0.20	303,301	588,244
DNZ-170	-304	-316	170.00	163.75	-1.52	7.92	+0.15	3.89	±0.10	165.00	-0.63	4.15	+0.18	207,129	572,964
EZ-170	-304	-316	170.00	164.00	-1.52	7.88	+0.15	2.18	±0.10	165.40	±0.20	2.40	+0.15	190,430	336,920
WZ-675	-304	-316	171.45	165.43	-1.52	7.92	+0.1/-0.2	2.18	±0.10	166.83	±0.20	2.39	+0.15	193,014	340,508
WZ-687	-304	-316	174.63	168.61	-1.52	7.92	+0.1/-0.2	2.18	±0.10	170.00	±0.20	2.39	+0.15	196,570	346,776
DNZ-175	-304	-316	175.00	168.73	-1.52	7.92	+0.15	3.89	±0.10	170.00	-0.63	4.15	+0.18	213,221	589,815
WZM-700	-304	-316	177.80	168.86	-1.52	10.62	+0.1/-0.2	3.96	±0.13	170.31	±0.20	4.42	+0.20	325,528	610,026
EZ-175	-304	-316	175.00	169.00	-1.52	7.88	+0.15	2.18	±0.10	170.40	±0.20	2.40	+0.15	196,030	346,830

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

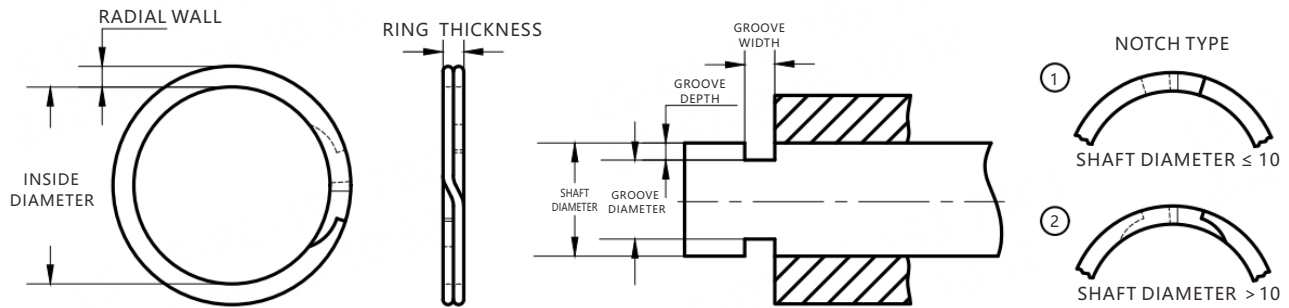
2-Turn Spiral Retaining Rings For Shaft



Lispring Part Number ¹			Shaft Diameter (mm)	Ring						Groove			Thrust Capacity		
Carbon Steel	304 SS	316 SS		Inside Diameter (mm)		Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)
	Add Suffix	Add Suffix													
WZ-700	-304	-316	177.80	171.73	-1.52	7.92	+0.1/-0.2	2.18	±0.10	173.18	±0.20	2.39	+0.15	200,171	353,089
DNZ-180	-304	-316	180.00	173.69	-1.52	7.92	±0.15	3.89	±0.10	175.00	-0.63	4.15	+0.18	219,313	606,667
EZ-180	-304	-316	180.00	173.78	-1.52	7.88	±0.15	2.18	±0.10	175.20	±0.20	2.40	+0.15	210,400	356,740
WZ-712	-304	-316	180.98	174.68	-1.52	7.92	+0.1/-0.2	2.18	±0.10	176.10	±0.20	2.39	+0.15	214,929	359,401
WZM-725	-304	-316	184.15	175.03	-1.78	10.62	+0.1/-0.2	3.96	±0.13	176.33	±0.20	4.42	+0.20	350,821	631,808
WZ-725	-304	-316	184.15	177.77	-1.52	7.92	+0.1/-0.2	2.18	±0.10	179.27	±0.20	2.39	+0.15	218,708	365,713
DNZ-185	-304	-316	185.00	178.66	-1.78	7.92	±0.15	3.89	±0.10	180.00	-0.63	4.15	+0.18	225,405	623,519
EZ-185	-304	-316	185.00	178.70	-1.52	7.88	±0.15	2.18	±0.10	180.20	±0.20	2.40	+0.15	216,240	366,650
WZ-737	-304	-316	187.33	180.98	-1.52	7.92	+0.1/-0.2	2.18	±0.10	182.45	±0.20	2.39	+0.15	222,486	372,025
WZM-750	-304	-316	190.50	181.10	-1.78	11.10	+0.1/-0.2	4.75	±0.13	182.37	±0.20	5.31	+0.20	377,049	783,436
DNZ-190	-304	-316	190.00	183.59	-1.78	7.92	±0.15	3.89	±0.10	185.00	-0.72	4.15	+0.18	231,497	640,371
EZ-190	-304	-316	190.00	183.70	-1.52	7.88	±0.15	2.18	±0.10	185.20	±0.20	2.40	+0.15	220,080	376,560
WZ-750	-304	-316	190.50	184.15	-1.78	7.92	+0.1/-0.2	2.18	±0.10	185.62	±0.20	2.39	+0.15	226,220	378,338
WZ-762	-304	-316	193.68	187.02	-1.78	7.92	+0.1/-0.2	2.18	±0.10	188.54	±0.20	2.39	+0.15	242,001	384,606
WZM-775	-304	-316	196.85	187.15	-1.78	11.10	+0.1/-0.2	4.75	±0.13	188.47	±0.20	5.31	+0.20	401,809	809,574
EZ-195	-304	-316	195.00	188.43	-1.52	7.88	±0.15	2.18	±0.10	190.00	±0.20	2.40	+0.15	237,420	386,460
DNZ-195	-304	-316	195.00	188.54	-1.78	7.92	±0.15	3.89	±0.10	190.00	-0.72	4.15	+0.18	237,589	657,223
WZ-775	-304	-316	196.85	190.14	-1.78	7.92	+0.1/-0.2	2.18	±0.10	191.72	±0.20	2.39	+0.15	245,957	390,918
WZM-800	-304	-316	203.20	193.19	-1.78	11.10	+0.1/-0.2	4.75	±0.13	194.56	±0.20	5.31	+0.20	427,325	835,668
WZ-787	-304	-316	200.03	193.32	-1.78	7.92	+0.1/-0.2	2.18	±0.10	194.89	±0.20	2.39	+0.15	249,914	397,230
EZ-200	-304	-316	200.00	193.43	-1.78	7.88	±0.15	2.18	±0.10	195.00	±0.20	2.40	+0.15	243,510	396,370
DNZ-200	-304	-316	200.00	193.54	-1.78	7.92	±0.15	3.89	±0.10	195.00	-0.72	4.15	+0.18	243,681	674,075
WZ-800	-304	-316	203.20	196.44	-1.78	7.92	+0.1/-0.2	2.18	±0.10	198.07	±0.20	2.39	+0.15	253,870	403,543
DNZ-205	-304	-316	205.00	197.54	-1.78	11.05	±0.15	4.86	±0.13	199.00	-0.72	5.15	+0.18	299,727	863,214
WZM-825	-304	-316	209.55	199.26	-1.78	11.10	+0.1/-0.2	4.75	±0.13	200.66	±0.20	5.31	+0.20	453,641	861,806
WZ-825	-304	-316	209.55	202.49	-1.78	9.53	+0.1/-0.2	2.18	±0.10	204.17	±0.20	2.39	+0.15	274,807	416,167
DNZ-210	-304	-316	210.00	202.54	-1.78	11.05	±0.15	4.86	±0.13	204.00	-0.72	5.15	+0.18	307,038	884,268
EZ-210	-304	-316	210.00	202.93	-1.78	9.48	±0.15	2.18	±0.10	204.60	±0.20	2.40	+0.15	276,140	416,190
WZM-850	-304	-316	215.90	205.31	-1.78	11.10	+0.1/-0.2	4.75	±0.13	206.76	±0.20	5.31	+0.20	480,757	887,900
WZ-850	-304	-316	215.90	208.79	-1.78	9.53	+0.1/-0.2	2.18	±0.10	210.52	±0.20	2.39	+0.15	283,120	428,747
WZM-875	-304	-316	222.25	211.43	-1.78	11.10	+0.1/-0.2	4.75	±0.13	212.93	±0.20	5.31	+0.20	505,873	914,038
DNZ-220	-304	-316	220.00	212.47	-1.78	11.05	±0.15	4.86	±0.13	214.00	-0.72	5.15	+0.18	321,659	926,376
EZ-220	-304	-316	220.00	212.65	-1.78	9.48	±0.15	2.18	±0.10	214.40	±0.20	2.40	+0.15	300,010	436,010
WZ-875	-304	-316	222.25	214.86	-1.78	9.53	+0.1/-0.2	2.18	±0.10	216.61	±0.20	2.39	+0.15	305,168	441,372
WZM-900	-304	-316	228.60	217.42	-1.78	12.70	+0.12/-0.25	4.75	±0.13	218.95	±0.20	5.31	+0.20	537,301	940,132
WZ-900	-304	-316	228.60	221.16	-1.78	9.53	+0.1/-0.2	2.18	±0.10	222.96	±0.20	2.39	+0.15	313,926	453,996
DNZ-230	-304	-316	230.00	222.40	-1.78	11.05	±0.15	4.86	±0.13	224.00	-0.72	5.15	+0.18	336,280	968,484
EZ-230	-304	-316	230.00	222.60	-1.78	9.48	±0.15	2.18	±0.10	224.40	±0.20	2.40	+0.15	313,640	455,830
WZM-925	-304	-316	234.95	223.47	-1.78	12.70	+0.12/-0.25	4.75	±0.13	225.04	±0.20	5.31	+0.20	566,773	966,271
WZ-925	-304	-316	234.95	227.20	-1.78	9.53	+0.1/-0.2	2.18	±0.10	229.06	±0.20	2.39	+0.15	337,174	466,577
WZM-950	-304	-316	241.30	229.51	-1.78	12.70	+0.12/-0.25	4.75	±0.13	231.14	±0.20	5.31	+0.20	597,001	992,364
EZ-240	-304	-316	240.00	232.32	-1.78	9.48	±0.15	2.18	±0.10	234.20	±0.20	2.40	+0.15	328,970	475,650
DNZ-240	-304	-316	240.00	232.33	-1.78	11.05	±0.15	4.86	±0.13	234.00	-0.72	5.15	+0.18	350,900	1,010,592
WZ-950	-304	-316	241.30	233.53	-1.78	9.53	+0.1/-0.2	2.18	±0.10	235.41	±0.20	2.39	+0.15	346,287	479,201
WZM-975	-304	-316	247.65	235.59	-1.78	12.70	+0.12/-0.25	4.75	±0.13	237.18	±0.20	5.31	+0.20	631,096	1,018,503
WZ-975	-304	-316	247.65	239.57	-1.78	9.53	+0.1/-0.2	2.18	±0.10	241.50	±0.20	2.39	+0.15	370,692	491,826
WZM-1000	-304	-316	254.00	241.50	-1.78	12.70	+0.12/-0.25	4.75	±0.13	243.21	±0.20	5.31	+0.20	669,281	1,044,596
EZ-250	-304	-316	250.00	241.83	-1.78	9.48	±0.15	2.18	±0.10	243.80	±0.20	2.40	+0.15	377,440	495,470

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

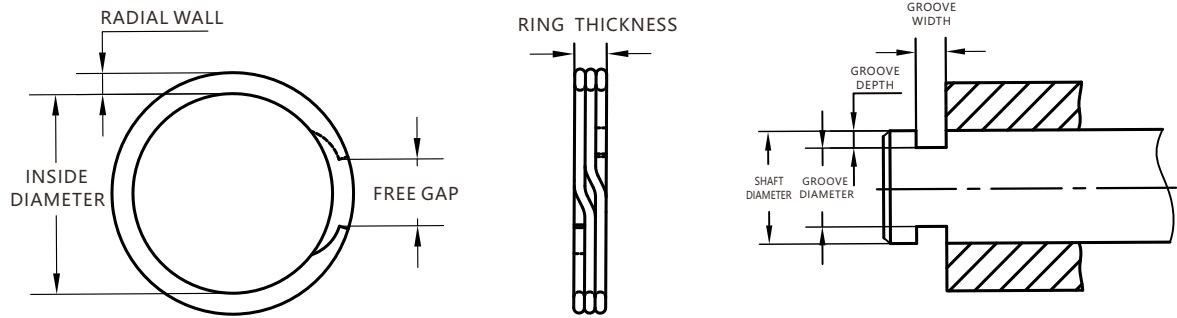
2-Turn Spiral Retaining Rings For Shaft



Lispring Part Number ¹			Shaft Diameter (mm)	Ring						Groove				Thrust Capacity	
Carbon Steel	304 SS	316 SS		Inside Diameter (mm)	Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)	
	Add Suffix	Add Suffix													
DNZ-250	-304	-316	250.00	242.24	-2.30	11.05	+0.15	4.86	+0.13	244.00	-0.72	5.15	+0.18	365,521	1,052,700
WZ-1000	-304	-316	254.00	245.87	-1.78	9.53	+0.1/-0.2	2.18	+0.10	247.85	+0.20	2.39	+0.15	380,205	504,406
WZM-1025	-304	-316	260.35	247.52	-2.28	12.70	+0.12/-0.25	4.75	+0.13	249.28	+0.20	5.31	+0.20	702,132	1,070,735
DNZ-260	-304	-316	260.00	250.19	-2.30	12.70	+0.19	4.86	+0.13	252.00	-0.81	5.15	+0.18	506,856	1,094,808
EZ-260	-304	-316	260.00	251.57	-1.78	9.48	+0.15	2.18	+0.10	253.60	+0.20	2.40	+0.15	405,210	515,290
WZ-1025	-304	-316	260.35	251.92	-1.78	9.53	+0.1/-0.2	2.18	+0.10	253.95	+0.20	2.39	+0.15	405,810	517,031
WZM-1050	-304	-316	266.70	253.59	-2.28	12.70	+0.12/-0.25	4.75	+0.13	255.37	+0.25	5.31	+0.20	735,738	1,096,828
WZ-1050	-304	-316	266.70	258.22	-1.78	9.53	+0.1/-0.2	2.18	+0.10	260.30	+0.20	2.39	+0.15	415,723	529,655
WZM-1075	-304	-316	273.05	259.61	-2.28	12.70	+0.12/-0.25	4.75	+0.13	261.44	+0.25	5.31	+0.20	773,523	1,122,967
DNZ-270	-304	-316	270.00	260.15	-2.30	12.70	+0.19	4.86	+0.13	262.00	-0.81	5.15	+0.18	526,351	1,136,916
EZ-270	-304	-316	270.00	261.30	-1.78	9.48	+0.15	2.18	+0.10	263.40	+0.20	2.40	+0.15	433,940	535,100
WZ-1075	-304	-316	273.05	264.29	-1.78	9.53	+0.1/-0.2	2.18	+0.10	266.40	+0.20	2.39	+0.15	442,483	542,280
WZM-1100	-304	-316	279.40	265.66	-2.28	12.70	+0.12/-0.25	4.75	+0.13	267.54	+0.25	5.31	+0.20	808,819	1,149,060
DNZ-280	-304	-316	280.00	270.08	-2.30	12.70	+0.19	4.86	+0.13	272.00	-0.81	5.15	+0.18	545,845	1,179,024
WZ-1100	-304	-316	279.40	270.59	-1.78	9.53	+0.1/-0.2	2.18	+0.10	272.75	+0.20	2.39	+0.15	452,796	554,860
EZ-280	-304	-316	280.00	271.04	-1.78	9.48	+0.15	2.18	+0.10	273.20	+0.20	2.40	+0.15	463,650	554,920
WZM-1125	-304	-316	285.75	271.58	-2.28	12.70	+0.12/-0.25	4.75	+0.13	273.61	+0.25	5.31	+0.20	844,870	1,175,154
WZM-1150	-304	-316	292.10	277.72	-2.28	14.27	+0.12/-0.25	4.75	+0.13	279.68	+0.25	5.31	+0.20	885,322	1,201,292
DNZ-290	-304	-316	290.00	279.98	-2.30	12.70	+0.19	4.86	+0.13	282.00	-0.81	5.15	+0.18	565,340	1,221,132
WZM-1175	-304	-316	298.45	283.74	-2.28	14.27	+0.12/-0.25	4.75	+0.13	285.75	+0.25	5.31	+0.20	923,018	1,227,431
WZM-1200	-304	-316	304.80	289.81	-2.28	14.27	+0.12/-0.25	4.75	+0.13	291.85	+0.25	5.31	+0.20	961,514	1,253,525
DNZ-300	-304	-316	300.00	289.92	-2.30	12.70	+0.19	4.86	+0.13	292.00	-0.81	5.15	+0.18	584,834	1,263,241
WZM-1225	-304	-316	311.15	295.83	-2.28	14.27	+0.12/-0.25	4.75	+0.13	297.92	+0.25	5.31	+0.20	1,004,633	1,279,618
DNZ-310	-304	-316	310.00	297.84	-2.80	15.88	+0.19	5.87	+0.13	300.00	-0.81	6.20	+0.22	755,411	1,576,625
WZM-1250	-304	-316	317.50	301.88	-2.28	14.27	+0.12/-0.25	4.75	+0.13	304.01	+0.25	5.31	+0.20	1,044,774	1,305,757
DNZ-320	-304	-316	320.00	307.84	-2.80	15.88	+0.19	5.87	+0.13	310.00	-0.81	6.20	+0.22	779,779	1,627,484
WZM-1275	-304	-316	323.85	307.95	-2.80	14.27	+0.12/-0.25	4.75	+0.13	310.08	+0.30	5.31	+0.20	1,085,715	1,331,850
WZM-1300	-304	-316	330.20	313.97	-2.80	16.81	+0.12/-0.25	4.75	+0.13	316.18	+0.30	5.31	+0.20	1,127,412	1,357,989
DNZ-330	-304	-316	330.00	317.75	-2.80	15.88	+0.19	5.87	+0.13	320.00	-0.89	6.20	+0.22	804,147	1,678,342
WZM-1325	-304	-316	336.55	319.99	-2.80	16.81	+0.12/-0.25	4.75	+0.13	322.25	+0.30	5.31	+0.20	1,174,087	1,384,082
WZM-1350	-304	-316	342.90	326.06	-2.80	16.81	+0.12/-0.25	4.75	+0.13	328.35	+0.30	5.31	+0.20	1,217,429	1,410,221
DNZ-340	-304	-316	340.00	327.69	-2.80	15.88	+0.19	5.87	+0.13	330.00	-0.89	6.20	+0.22	828,515	1,729,201
WZM-1375	-304	-316	349.25	332.08	-2.80	16.81	+0.12/-0.25	4.75	+0.13	334.42	+0.30	5.31	+0.20	1,261,570	1,436,314
DNZ-350	-304	-316	350.00	337.64	-2.80	15.88	+0.19	5.87	+0.13	340.00	-0.89	6.20	+0.22	852,883	1,780,060
WZM-1400	-304	-316	355.60	338.10	-2.80	16.81	+0.12/-0.25	4.75	+0.13	340.49	+0.30	5.31	+0.20	1,310,913	1,462,453
WZM-1425	-304	-316	361.95	344.12	-2.80	16.81	+0.12/-0.25	4.75	+0.13	346.56	+0.30	5.31	+0.20	1,356,699	1,488,546
DNZ-360	-304	-316	360.00	347.57	-2.80	15.88	+0.19	5.87	+0.13	350.00	-0.89	6.20	+0.22	877,251	1,830,919
WZM-1450	-304	-316	368.30	350.19	-2.80	19.05	+0.12/-0.25	4.75	+0.13	352.65	+0.30	5.31	+0.20	1,403,286	1,514,685
WZM-1475	-304	-316	374.65	356.21	-2.80	19.05	+0.12/-0.25	4.75	+0.13	358.72	+0.30	5.31	+0.20	1,455,296	1,540,779
DNZ-370	-304	-316	370.00	357.48	-2.80	15.88	+0.19	5.87	+0.13	360.00	-0.89	6.20	+0.22	901,619	1,881,778
WZM-1500	-304	-316	381.00	362.25	-2.80	19.05	+0.12/-0.25	4.75	+0.13	364.82	+0.30	5.31	+0.20	1,503,527	1,566,917
DNZ-380	-304	-316	380.00	367.41	-2.80	15.88	+0.19	5.87	+0.13	370.00	-0.89	6.20	+0.22	925,987	1,932,637
DNZ-390	-304	-316	390.00	377.34	-2.80	15.88	+0.19	5.87	+0.13	380.00	-0.89	6.20	+0.22	950,355	1,983,496
DNZ-400	-304	-316	400.00	387.25	-2.80	15.88	+0.19	5.87	+0.13	390.00	-0.89	6.20	+0.22	974,723	2,034,354

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

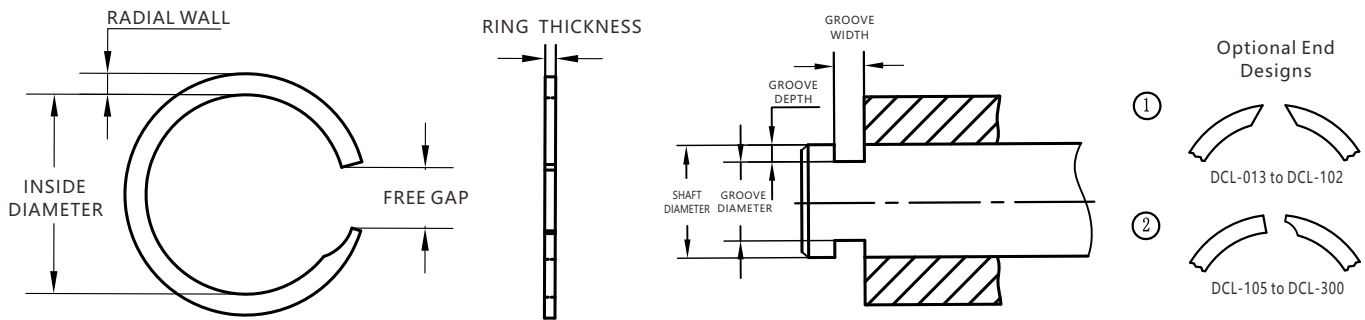
3-Turn Spiral Retaining Rings For Shaft



Lispring Part Number ¹			Shaft Diameter (mm)	Ring						Groove			Thrust Capacity		
Carbon Steel	304 SS	316 SS		Inside Diameter (mm)	Radial Wall (mm)		Thickness (mm)		Diameter (mm)	Width (mm)		Groove Yield (N)	Ring Shear (N)		
	Add Suffix	Add Suffix													
WZT-625	-304	-316	158.75	150.93	-1.52	7.92	±0.15	4.19	±0.13	152.02	±0.20	4.42	±0.20	261,205	576,064
WZT-650	-304	-316	165.10	157.02	-1.52	7.92	±0.15	4.19	±0.13	158.12	±0.20	4.42	±0.20	281,875	599,135
WZT-675	-304	-316	171.45	163.07	-1.52	7.92	±0.15	4.19	±0.13	164.21	±0.20	4.42	±0.20	303,301	622,161
WZT-700	-304	-316	177.80	169.11	-1.52	7.92	±0.15	4.19	±0.13	170.31	±0.20	4.42	±0.20	325,528	645,188
WZT-725	-304	-316	184.15	175.11	-1.78	7.92	±0.15	4.19	±0.13	176.33	±0.20	4.42	±0.20	348,021	765,433
WZT-750	-304	-316	190.50	181.10	-1.78	9.53	±0.15	4.80	±0.13	182.37	±0.20	5.31	±0.20	377,049	791,838
WZT-775	-304	-316	196.85	187.15	-1.78	9.53	±0.15	4.80	±0.13	188.47	±0.20	5.31	±0.20	401,809	818,243
WZT-800	-304	-316	203.20	193.22	-1.78	9.53	±0.15	4.80	±0.13	194.56	±0.20	5.31	±0.20	427,325	844,603
WZT-825	-304	-316	209.55	199.26	-1.78	9.53	±0.15	4.80	±0.13	200.66	±0.20	5.31	±0.20	453,641	871,008
WZT-850	-304	-316	215.90	205.31	-1.78	9.53	±0.15	4.80	±0.13	206.76	±0.20	5.31	±0.20	480,757	897,413
WZT-875	-304	-316	222.25	211.35	-1.78	9.53	±0.15	4.80	±0.13	212.93	±0.20	5.31	±0.20	505,873	923,818
WZT-900	-304	-316	228.60	217.42	-1.78	9.53	±0.15	4.80	±0.13	218.95	±0.20	5.31	±0.20	537,301	950,179
WZT-925	-304	-316	234.95	223.47	-1.78	9.53	±0.15	4.80	±0.13	225.04	±0.20	5.31	±0.20	566,773	976,584
WZT-950	-304	-316	241.30	229.51	-1.78	9.53	±0.15	4.80	±0.13	231.14	±0.20	5.31	±0.20	597,001	1,002,989
WZT-975	-304	-316	247.65	235.53	-1.78	9.53	±0.15	4.80	±0.13	237.19	±0.20	5.31	±0.20	631,096	1,029,393
WZT-1000	-304	-316	254.00	241.50	-1.78	9.53	±0.15	4.80	±0.13	243.21	±0.20	5.31	±0.20	669,281	1,055,754

¹Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

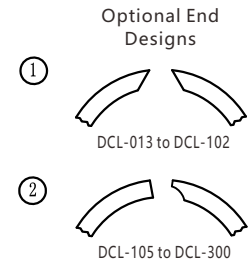
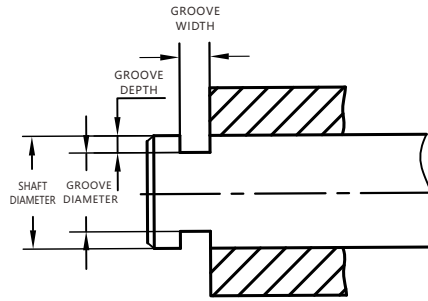
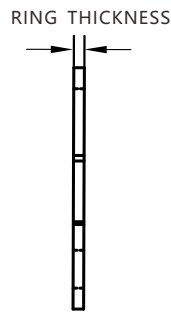
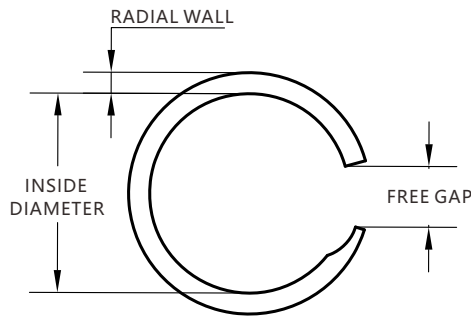
Constant Section Retaining Rings For Shaft



Lispring Part Number ¹		Shaft Diameter (mm)	Ring						Groove				Thrust Capacity	
Carbon Steel	304 SS		Inside Diameter (mm)	Radial Wall (mm)	Thickness (mm)	Diameter (mm)	Width (mm)	Groove Yield (N)	Ring Shear (N)					
	Add Suffix													
DCL-013	-304	13.00	12.27	-0.33	1.40	±0.10	.94	±0.05	12.40	-0.11	1.10	+0.14	1,931	10,591
DCL-014	-304	14.00	13.31	-0.33	1.40	±0.10	.94	±0.05	13.40	-0.11	1.10	+0.14	2,077	11,396
DCL-015	-304	15.00	14.15	-0.33	1.40	±0.10	.94	±0.05	14.30	-0.11	1.10	+0.14	2,602	12,224
DCL-016	-304	16.00	14.98	-0.33	1.65	±0.10	.94	±0.05	15.20	-0.11	1.10	+0.14	3,172	13,029
DCL-017	-304	17.00	16.06	-0.33	1.65	±0.10	.94	±0.05	16.20	-0.11	1.10	+0.14	3,367	13,838
DCL-018	-304	18.00	16.82	-0.33	1.90	±0.10	1.15	±0.05	17.00	-0.11	1.30	+0.14	4,457	17,953
DCL-019	-304	19.00	17.81	-0.33	1.90	±0.10	1.15	±0.05	18.00	-0.11	1.30	+0.14	4,702	18,941
DCL-020	-304	20.00	18.80	-0.33	1.90	±0.10	1.15	±0.05	19.00	-0.13	1.30	+0.14	4,951	19,928
DCL-021	-304	21.00	19.79	-0.33	1.90	±0.10	1.15	±0.05	20.00	-0.13	1.30	+0.14	5,200	20,942
DCL-022	-304	22.00	20.83	-0.33	1.90	±0.10	1.15	±0.05	21.00	-0.13	1.30	+0.14	5,445	21,930
DCL-023	-304	23.00	21.77	-0.33	1.90	±0.10	1.15	±0.05	22.00	-0.13	1.30	+0.14	5,698	22,939
DCL-024	-304	24.00	22.50	-0.33	2.15	±0.10	1.15	±0.05	22.90	-0.21	1.30	+0.14	6,539	23,927
DCL-025	-304	25.00	23.70	-0.33	2.15	±0.10	1.15	±0.05	23.90	-0.21	1.30	+0.14	6,806	24,914
DCL-026	-304	26.00	24.64	-0.33	2.15	±0.10	1.15	±0.05	24.90	-0.21	1.30	+0.14	7,082	25,929
DCL-027	-304	27.00	25.50	-0.33	2.15	±0.10	1.15	±0.05	25.90	-0.21	1.30	+0.14	7,353	26,916
DCL-028	-304	28.00	26.32	-0.38	3.25	±0.10	1.44	±0.05	26.60	-0.21	1.60	+0.14	9,702	33,179
DCL-029	-304	29.00	27.15	-0.38	3.25	±0.10	1.44	±0.05	27.60	-0.21	1.60	+0.14	10,053	34,385
DCL-030	-304	30.00	28.35	-0.38	3.25	±0.10	1.44	±0.05	28.60	-0.21	1.60	+0.14	10,395	35,559
DCL-032	-304	32.00	29.87	-0.38	3.25	±0.10	1.44	±0.05	30.30	-0.25	1.60	+0.14	13,073	37,939
DCL-033	-304	33.00	31.07	-0.38	3.25	±0.10	1.44	±0.05	31.30	-0.25	1.60	+0.14	13,478	39,113
DCL-034	-304	34.00	31.96	-0.38	3.25	±0.10	1.44	±0.05	32.30	-0.25	1.60	+0.14	13,892	40,319
DCL-035	-304	35.00	32.57	-0.38	3.25	±0.10	1.44	±0.05	33.00	-0.25	1.60	+0.14	16,899	41,493
DCL-036	-304	36.00	33.64	-0.38	4.01	±0.10	1.69	±0.05	34.00	-0.25	1.85	+0.14	17,375	50,038
DCL-038	-304	38.00	35.62	-0.38	4.01	±0.10	1.69	±0.05	36.00	-0.25	1.85	+0.14	18,344	52,827
DCL-040	-304	40.00	37.02	-0.51	4.01	±0.10	1.69	±0.05	37.50	-0.25	1.85	+0.14	24,265	55,621
DCL-042	-304	42.00	39.08	-0.51	4.01	±0.10	1.69	±0.05	39.50	-0.25	1.85	+0.14	25,484	58,410
DCL-045	-304	45.00	42.05	-0.51	4.01	±0.10	1.69	±0.05	42.50	-0.25	1.85	+0.14	27,303	62,578
DCL-046	-304	46.00	43.10	-0.51	4.01	±0.10	1.69	±0.05	43.50	-0.25	1.85	+0.14	27,904	63,952
DCL-047	-304	47.00	44.03	-0.51	4.01	±0.10	1.69	±0.05	44.50	-0.25	1.85	+0.14	28,504	65,331
DCL-048	-304	48.00	44.89	-0.51	4.01	±0.10	1.69	±0.05	45.50	-0.25	1.85	+0.14	29,118	66,741
DCL-050	-304	50.00	46.50	-0.63	5.08	±0.13	1.93	±0.08	47.00	-0.25	2.15	+0.14	36,529	75,282
DCL-052	-304	52.00	48.48	-0.63	5.08	±0.13	1.93	±0.08	49.00	-0.25	2.15	+0.14	37,974	78,266
DCL-054	-304	54.00	50.46	-0.63	5.08	±0.13	1.93	±0.08	51.00	-0.30	2.15	+0.14	39,438	81,287
DCL-055	-304	55.00	51.45	-0.63	5.08	±0.13	1.93	±0.08	52.00	-0.30	2.15	+0.14	40,163	82,777
DCL-056	-304	56.00	52.44	-0.63	5.08	±0.13	1.93	±0.08	53.00	-0.30	2.15	+0.14	40,906	84,307
DCL-058	-304	58.00	54.42	-0.63	5.08	±0.13	1.93	±0.08	55.00	-0.30	2.15	+0.14	42,352	87,287
DCL-060	-304	60.00	56.55	-0.63	5.08	±0.13	1.93	±0.08	57.00	-0.30	2.15	+0.14	43,819	90,308
DCL-062	-304	62.00	58.32	-0.63	5.08	±0.13	1.93	±0.08	59.00	-0.30	2.15	+0.14	45,283	93,328
DCL-063	-304	63.00	59.37	-0.63	5.08	±0.13	1.93	±0.08	60.00	-0.30	2.15	+0.14	46,008	94,823
DCL-065	-304	65.00	61.35	-0.63	5.08	±0.13	2.41	±0.08	62.00	-0.30	2.65	+0.14	47,471	116,641
DCL-067	-304	67.00	63.35	-0.63	5.08	±0.13	2.41	±0.08	64.00	-0.30	2.65	+0.14	48,939	120,240
DCL-068	-304	68.00	64.45	-0.76	5.08	±0.13	2.41	±0.08	65.00	-0.30	2.65	+0.14	49,660	122,019
DCL-070	-304	70.00	66.22	-0.76	5.08	±0.13	2.41	±0.08	67.00	-0.30	2.65	+0.14	51,128	125,618
DCL-072	-304	72.00	68.28	-0.76	5.08	±0.13	2.41	±0.08	69.00	-0.30	2.65	+0.14	52,591	129,221
DCL-075	-304	75.00	71.25	-0.76	5.08	±0.13	2.41	±0.08	72.00	-0.30	2.65	+0.14	54,780	134,599

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

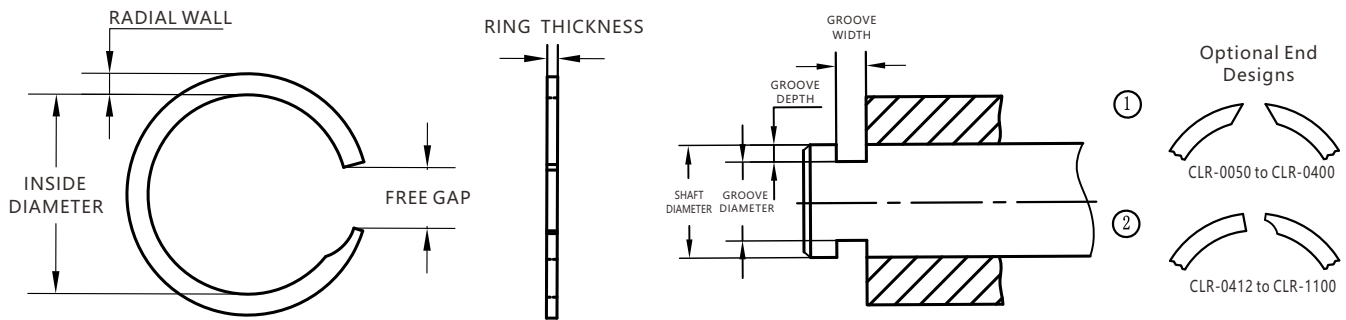
Constant Section Retaining Rings For Shaft



Lispring Part Number ¹		Shaft Diameter (mm)	Ring						Groove				Thrust Capacity	
Carbon Steel	304 SS		Inside Diameter (mm)	Radial Wall (mm)		Thickness (mm)		Diameter (mm)	Width (mm)		Groove Yield (N)	Ring Shear (N)		
	Add Suffix													
DCL-077	-304	77.00	73.23	-0.76	5.08	±0.13	2.41	±0.08	74.00	-0.30	2.65	+0.14	56,230	138,153
DCL-078	-304	78.00	74.06	-0.76	5.08	±0.13	2.41	±0.08	75.00	-0.30	2.65	+0.14	56,968	139,977
DCL-080	-304	80.00	75.70	-0.76	6.02	±0.13	2.41	±0.08	76.50	-0.30	2.65	+0.14	68,342	143,575
DCL-082	-304	82.00	77.68	-0.76	6.02	±0.13	2.41	±0.08	78.50	-0.30	2.65	+0.14	70,033	147,134
DCL-085	-304	85.00	80.65	-0.76	6.30	±0.13	2.91	±0.08	81.50	-0.35	3.15	+0.18	72,595	175,656
DCL-088	-304	88.00	83.60	-0.89	6.30	±0.13	2.91	±0.08	84.50	-0.35	3.15	+0.18	75,175	181,906
DCL-090	-304	90.00	85.80	-0.89	6.30	±0.13	2.91	±0.08	86.50	-0.35	3.15	+0.18	76,865	185,998
DCL-095	-304	95.00	90.68	-0.89	6.30	±0.13	2.91	±0.08	91.50	-0.35	3.15	+0.18	81,140	196,340
DCL-098	-304	98.00	93.70	-0.89	6.30	±0.13	2.91	±0.08	94.50	-0.35	3.15	+0.18	83,702	202,536
DCL-100	-304	100.00	95.50	-0.89	6.30	±0.13	2.91	±0.08	96.50	-0.35	3.15	+0.18	85,415	206,682
DCL-102	-304	102.00	97.23	-1.30	6.30	±0.13	2.91	±0.08	98.50	-0.54	3.15	+0.18	87,127	210,828
DCL-105	-304	105.00	99.83	-1.30	6.73	±0.13	3.89	±0.10	101.00	-0.54	4.15	+0.18	102,687	276,951
DCL-108	-304	108.00	102.87	-1.30	6.73	±0.13	3.89	±0.10	104.00	-0.54	4.15	+0.18	105,619	284,855
DCL-110	-304	110.00	104.90	-1.30	6.73	±0.13	3.89	±0.10	106.00	-0.54	4.15	+0.18	107,580	290,149
DCL-115	-304	115.00	109.85	-1.30	6.73	±0.13	3.89	±0.10	111.00	-0.54	4.15	+0.18	112,473	303,346
DCL-120	-304	120.00	115.06	-1.30	6.73	±0.13	3.89	±0.10	116.00	-0.54	4.15	+0.18	117,344	316,478
DCL-125	-304	125.00	119.75	-1.30	6.73	±0.13	3.89	±0.10	121.00	-0.63	4.15	+0.18	122,237	329,676
DCL-130	-304	130.00	124.70	-1.30	6.73	±0.13	3.89	±0.10	126.00	-0.63	4.15	+0.18	127,130	342,873
DCL-135	-304	135.00	129.65	-1.30	6.73	±0.13	3.89	±0.10	131.00	-0.63	4.15	+0.18	132,023	356,071
DCL-140	-304	140.00	134.42	-1.30	6.73	±0.13	3.89	±0.10	136.00	-0.63	4.15	+0.18	136,916	369,269
DCL-145	-304	145.00	139.55	-1.30	6.73	±0.13	3.89	±0.10	141.00	-0.63	4.15	+0.18	141,809	382,467
DCL-150	-304	150.00	143.50	-1.52	8.03	±0.15	3.89	±0.10	145.00	-0.63	4.15	+0.18	181,986	395,665
DCL-155	-304	155.00	148.45	-1.52	8.03	±0.15	3.89	±0.10	150.00	-0.63	4.15	+0.18	188,026	408,796
DCL-160	-304	160.00	153.40	-1.52	8.03	±0.15	3.89	±0.10	155.00	-0.63	4.15	+0.18	194,094	421,994
DCL-165	-304	165.00	158.40	-1.52	8.03	±0.15	3.89	±0.10	160.00	-0.63	4.15	+0.18	200,166	435,192
DCL-170	-304	170.00	163.30	-1.52	8.03	±0.15	3.89	±0.10	165.00	-0.63	4.15	+0.18	206,237	448,683
DCL-175	-304	175.00	168.25	-1.52	8.03	±0.15	3.89	±0.10	170.00	-0.63	4.15	+0.18	212,305	461,890
DCL-180	-304	180.00	173.20	-1.52	8.03	±0.15	3.89	±0.10	175.00	-0.63	4.15	+0.18	218,377	475,097
DCL-185	-304	185.00	177.62	-1.78	8.03	±0.15	3.89	±0.10	180.00	-0.63	4.15	+0.18	224,417	488,232
DCL-190	-304	190.00	183.35	-1.78	8.03	±0.15	3.89	±0.10	185.00	-0.72	4.15	+0.18	230,489	501,439
DCL-195	-304	195.00	188.05	-1.78	8.03	±0.15	3.89	±0.10	190.00	-0.72	4.15	+0.18	236,556	514,646
DCL-200	-304	200.00	193.00	-1.78	8.03	±0.15	3.89	±0.10	195.00	-0.72	4.15	+0.18	242,628	527,853
DCL-205	-304	205.00	196.95	-1.78	11.05	±0.18	4.87	±0.13	199.00	-0.72	5.15	+0.18	299,454	641,438
DCL-210	-304	210.00	201.67	-1.78	11.05	±0.18	4.87	±0.13	204.00	-0.72	5.15	+0.18	306,763	657,096
DCL-220	-304	220.00	211.80	-1.78	11.05	±0.18	4.87	±0.13	214.00	-0.72	5.15	+0.18	321,344	688,327
DCL-230	-304	230.00	221.70	-1.78	11.05	±0.18	4.87	±0.13	224.00	-0.72	5.15	+0.18	335,961	719,638
DCL-240	-304	240.00	231.89	-1.78	11.05	±0.18	4.87	±0.13	234.00	-0.72	5.15	+0.18	350,578	750,953
DCL-250	-304	250.00	241.50	-2.30	11.05	±0.18	4.87	±0.13	244.00	-0.72	5.15	+0.18	365,199	782,264
DCL-260	-304	260.00	249.59	-2.30	12.70	±0.18	4.87	±0.13	252.00	-0.81	5.15	+0.18	505,300	813,500
DCL-270	-304	270.00	259.30	-2.30	12.70	±0.18	4.87	±0.13	262.00	-0.81	5.15	+0.18	524,748	844,811
DCL-280	-304	280.00	268.83	-2.30	12.70	±0.18	4.87	±0.13	272.00	-0.81	5.15	+0.18	544,200	876,126
DCL-290	-304	290.00	279.10	-2.30	12.70	±0.18	4.87	±0.13	282.00	-0.81	5.15	+0.18	563,599	907,357
DCL-300	-304	300.00	289.00	-2.30	12.70	±0.18	4.87	±0.13	292.00	-0.81	5.15	+0.18	583,051	938,673

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel; suffix -316 denotes Grade 316 stainless steel.

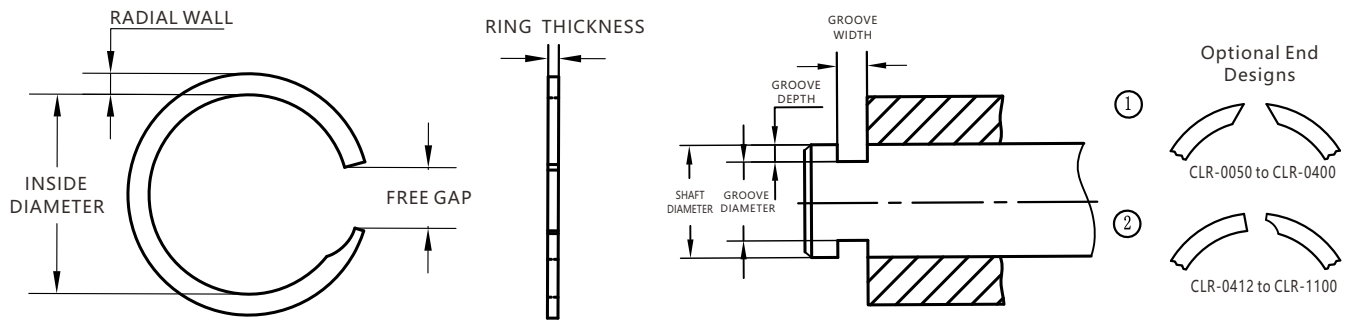
Constant Section Retaining Rings For Shaft



Lispring Part Number ¹		Shaft Diameter (mm)	Ring						Groove				Thrust Capacity	
Carbon Steel	304 SS		Inside Diameter (mm)	Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)	
	Add Suffix													
CLR-0050	-304	12.70	11.96	-0.33	1.40	±0.10	0.94	±0.05	12.09	-0.10	1.09	+0.15	1,925	10,556
CLR-0056	-304	14.27	13.31	-0.33	1.40	±0.10	0.94	±0.05	13.51	-0.10	1.09	+0.15	2,706	11,863
CLR-0062	-304	15.88	14.99	-0.33	1.65	±0.10	0.94	±0.05	15.11	-0.10	1.09	+0.15	3,010	13,193
CLR-0068	-304	17.45	16.48	-0.33	1.65	±0.10	0.94	±0.05	16.64	-0.10	1.09	+0.15	3,528	14,501
CLR-0075	-304	19.05	17.81	-0.33	1.90	±0.10	1.14	±0.05	18.03	-0.10	1.30	+0.15	4,812	19,254
CLR-0081	-304	20.62	19.41	-0.33	1.90	±0.10	1.14	±0.05	19.61	-0.13	1.30	+0.15	5,212	20,848
CLR-0087	-304	22.23	20.83	-0.33	1.90	±0.10	1.14	±0.05	21.11	-0.13	1.30	+0.15	6,179	22,464
CLR-0093	-304	23.80	22.50	-0.33	2.16	±0.10	1.14	±0.05	22.68	-0.20	1.30	+0.15	6,615	24,216
CLR-0100	-304	25.40	23.70	-0.33	2.16	±0.10	1.14	±0.05	24.18	-0.20	1.30	+0.15	7,700	25,846
CLR-0106	-304	26.97	25.50	-0.33	2.16	±0.10	1.15	±0.05	25.76	-0.20	1.30	+0.15	8,181	27,444
CLR-0112	-304	28.58	27.15	-0.38	3.25	±0.10	1.45	±0.05	27.36	-0.20	1.60	+0.15	8,667	34,572
CLR-0118	-304	30.15	28.35	-0.38	3.25	±0.10	1.45	±0.05	28.73	-0.20	1.60	+0.15	10,664	36,479
CLR-0125	-304	31.75	29.87	-0.38	3.25	±0.10	1.45	±0.05	30.18	-0.25	1.60	+0.15	12,435	38,413
CLR-0131	-304	33.32	31.06	-0.38	3.25	±0.10	1.45	±0.05	31.55	-0.25	1.60	+0.15	14,737	40,320
CLR-0137	-304	34.93	32.56	-0.38	3.25	±0.10	1.45	±0.05	32.94	-0.25	1.60	+0.15	17,211	42,254
CLR-0143	-304	36.50	34.14	-0.38	4.01	±0.10	1.70	±0.05	34.52	-0.25	1.85	+0.15	17,983	51,792
CLR-0150	-304	38.10	35.61	-0.38	4.01	±0.10	1.70	±0.05	36.12	-0.25	1.85	+0.15	18,773	54,062
CLR-0156	-304	39.67	37.01	-0.51	4.01	±0.10	1.70	±0.05	37.34	-0.25	1.85	+0.15	23,059	56,296
CLR-0162	-304	41.28	38.53	-0.51	4.01	±0.10	1.70	±0.05	38.94	-0.25	1.85	+0.15	23,989	58,571
CLR-0168	-304	42.85	40.08	-0.51	4.01	±0.10	1.70	±0.05	40.51	-0.25	1.85	+0.15	24,902	60,804
CLR-0175	-304	44.45	41.66	-0.51	4.01	±0.10	1.70	±0.05	42.11	-0.25	1.85	+0.15	25,833	63,074
CLR-0181	-304	46.02	43.10	-0.51	4.01	±0.10	1.70	±0.05	43.69	-0.25	1.85	+0.15	26,750	65,308
CLR-0187	-304	47.63	44.88	-0.51	4.01	±0.10	1.70	±0.05	45.29	-0.25	1.85	+0.15	27,680	67,578
CLR-0193	-304	49.20	45.72	-0.63	5.08	±0.13	1.93	±0.08	46.20	-0.25	2.16	+0.15	36,674	75,586
CLR-0200	-304	50.80	47.29	-0.63	5.08	±0.13	1.93	±0.08	47.80	-0.25	2.16	+0.15	37,868	78,047
CLR-0206	-304	52.37	48.87	-0.63	5.08	±0.13	1.93	±0.08	49.38	-0.25	2.16	+0.15	39,039	80,467
CLR-0212	-304	53.98	50.47	-0.63	5.08	±0.13	1.93	±0.08	50.98	-0.30	2.16	+0.15	40,233	82,923
CLR-0218	-304	55.55	52.02	-0.63	5.08	±0.13	1.93	±0.08	52.55	-0.30	2.16	+0.15	41,409	85,343
CLR-0225	-304	57.15	53.59	-0.63	5.08	±0.13	1.93	±0.08	54.15	-0.30	2.16	+0.15	42,603	87,804
CLR-0231	-304	58.72	55.14	-0.63	5.08	±0.13	1.93	±0.08	55.73	-0.30	2.16	+0.15	43,775	90,223
CLR-0237	-304	60.33	56.54	-0.63	5.08	±0.13	1.93	±0.08	57.33	-0.30	2.16	+0.15	44,969	92,680
CLR-0243	-304	61.90	58.32	-0.63	5.08	±0.13	1.93	±0.08	58.90	-0.30	2.16	+0.15	46,140	95,099
CLR-0250	-304	63.50	59.87	-0.63	5.08	±0.13	1.93	±0.08	60.50	-0.30	2.16	+0.15	47,334	97,556
CLR-0256	-304	65.07	61.34	-0.63	5.08	±0.13	2.41	±0.08	62.08	-0.30	2.64	+0.15	48,510	119,184
CLR-0262	-304	66.68	63.14	-0.63	5.08	±0.13	2.41	±0.08	63.68	-0.30	2.64	+0.15	49,699	122,117
CLR-0268	-304	68.25	64.44	-0.76	5.08	±0.13	2.41	±0.08	65.25	-0.30	2.64	+0.15	50,875	125,000
CLR-0275	-304	69.85	66.22	-0.76	5.08	±0.13	2.41	±0.08	66.85	-0.30	2.64	+0.15	52,069	127,933
CLR-0281	-304	71.42	67.69	-0.76	5.08	±0.13	2.41	±0.08	68.43	-0.30	2.64	+0.15	53,241	130,816
CLR-0287	-304	73.03	69.27	-0.76	5.08	±0.13	2.41	±0.08	70.03	-0.30	2.64	+0.15	54,435	133,748
CLR-0293	-304	74.60	70.84	-0.76	5.08	±0.13	2.41	±0.08	71.60	-0.30	2.64	+0.15	55,610	136,631

¹Suffix -304 appended to the part number denotes material as Grade 304 stainless steel.

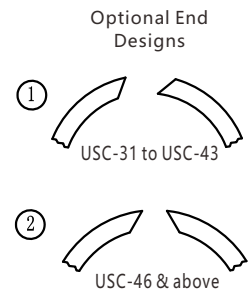
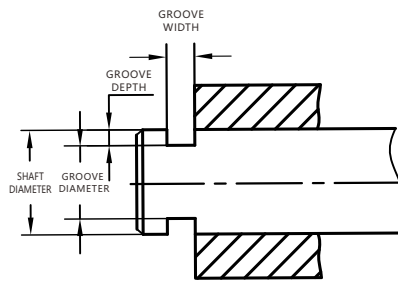
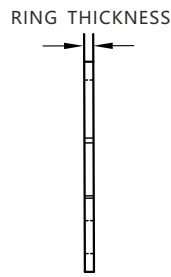
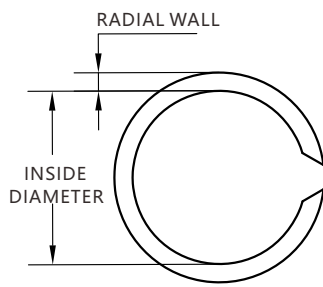
Constant Section Retaining Rings For Shaft



Lispring Part Number ¹		Shaft Diameter (mm)	Ring						Groove				Thrust Capacity	
Carbon Steel	304 SS Add Suffix		Inside Diameter (mm)		Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)
CLR-0300	76.20	-304	72.44	-0.76	5.08	±0.13	2.41	±0.08	73.20	-0.30	2.64	+0.18	56,800	139,560
CLR-0306	77.77	-304	74.07	-0.76	5.08	±0.13	2.41	±0.08	74.78	-0.30	2.64	+0.18	57,976	142,447
CLR-0312	79.38	-304	75.06	-0.76	6.02	±0.13	2.41	±0.08	75.87	-0.30	2.64	+0.18	69,199	145,375
CLR-0318	80.95	-304	76.61	-0.76	6.02	±0.13	2.41	±0.08	77.44	-0.30	2.64	+0.18	70,570	148,263
CLR-0325	82.55	-304	78.21	-0.76	6.02	±0.13	2.41	±0.08	79.04	-0.30	2.64	+0.18	71,964	151,191
CLR-0331	84.12	-304	79.76	-0.76	6.30	±0.13	2.92	±0.08	80.62	-0.36	3.15	+0.18	73,339	177,460
CLR-0337	85.73	-304	81.36	-0.89	6.30	±0.13	2.92	±0.08	82.22	-0.36	3.15	+0.18	74,733	180,833
CLR-0343	87.30	-304	82.91	-0.89	6.30	±0.13	2.92	±0.08	83.79	-0.36	3.15	+0.18	76,104	184,156
CLR-0350	88.90	-304	84.48	-0.89	6.30	±0.13	2.92	±0.08	85.39	-0.36	3.15	+0.18	77,502	187,534
CLR-0356	90.47	-304	85.80	-0.89	6.30	±0.13	2.92	±0.08	86.97	-0.36	3.15	+0.18	78,873	190,853
CLR-0362	92.08	-304	87.66	-0.89	6.30	±0.13	2.92	±0.08	88.57	-0.36	3.15	+0.18	80,267	194,230
CLR-0368	93.65	-304	89.20	-0.89	6.30	±0.13	2.92	±0.08	90.14	-0.36	3.15	+0.18	81,643	197,554
CLR-0375	95.25	-304	90.68	-0.89	6.30	±0.13	2.92	±0.08	91.74	-0.36	3.15	+0.18	83,037	200,927
CLR-0381	96.82	-304	92.35	-0.89	6.30	±0.13	2.92	±0.08	93.32	-0.36	3.15	+0.18	84,408	204,250
CLR-0387	98.43	-304	93.70	-0.89	6.30	±0.13	2.92	±0.08	94.92	-0.36	3.15	+0.18	85,806	207,623
CLR-0393	100.00	-304	95.50	-0.89	6.30	±0.13	2.92	±0.08	96.49	-0.53	3.15	+0.18	87,177	210,947
CLR-0400	101.60	-304	97.23	-1.30	6.30	±0.13	2.92	±0.08	98.09	-0.53	3.15	+0.18	88,571	214,324
CLR-0412	104.78	-304	99.82	-1.30	6.73	±0.13	3.89	±0.10	100.76	-0.53	4.14	+0.18	104,579	282,052
CLR-0425	107.95	-304	102.87	-1.30	6.73	±0.13	3.89	±0.10	103.94	-0.53	4.14	+0.18	107,748	290,596
CLR-0437	111.13	-304	106.02	-1.30	6.73	±0.13	3.89	±0.10	107.11	-0.53	4.14	+0.18	110,917	299,145
CLR-0450	114.30	-304	109.14	-1.30	6.73	±0.13	3.89	±0.10	110.29	-0.53	4.14	+0.18	114,086	307,694
CLR-0462	117.48	-304	112.29	-1.30	6.73	±0.13	3.89	±0.10	113.46	-0.53	4.14	+0.18	117,255	316,238
CLR-0475	120.65	-304	115.06	-1.30	6.73	±0.13	3.89	±0.10	116.64	-0.53	4.14	+0.18	120,424	324,787
CLR-0487	123.83	-304	118.57	-1.30	6.73	±0.13	3.89	±0.10	119.81	-0.61	4.14	+0.18	123,592	333,331
CLR-0500	127.00	-304	121.72	-1.30	6.73	±0.13	3.89	±0.10	122.99	-0.61	4.14	+0.18	126,761	341,880
CLR-0525	133.35	-304	127.99	-1.30	6.73	±0.13	3.89	±0.10	129.34	-0.61	4.14	+0.18	133,099	358,973
CLR-0550	139.70	-304	134.42	-1.30	6.73	±0.13	3.89	±0.10	135.69	-0.61	4.14	+0.18	139,437	376,066
CLR-0575	146.05	-304	140.59	-1.30	6.73	±0.13	3.89	±0.10	142.04	-0.61	4.14	+0.18	145,775	393,159
CLR-0600	152.40	-304	145.90	-1.52	8.03	±0.15	3.89	±0.10	147.42	-0.61	4.14	+0.18	188,696	410,257
CLR-0625	158.75	-304	152.20	-1.52	8.03	±0.15	3.89	±0.10	153.77	-0.61	4.14	+0.18	196,559	427,350
CLR-0650	165.10	-304	158.39	-1.52	8.03	±0.15	3.89	±0.10	160.12	-0.61	4.14	+0.18	204,423	444,443
CLR-0675	171.45	-304	164.74	-1.52	8.03	±0.15	3.89	±0.10	166.47	-0.61	4.14	+0.18	212,286	461,841
CLR-0700	177.80	-304	171.04	-1.78	8.03	±0.15	3.89	±0.10	172.82	-0.61	4.14	+0.18	220,145	478,943
CLR-0725	184.15	-304	177.62	-1.78	8.03	±0.15	3.89	±0.10	179.17	-0.61	4.14	+0.18	228,008	496,049
CLR-0750	190.50	-304	183.36	-1.78	8.03	±0.15	3.89	±0.10	185.52	-0.71	4.14	+0.18	235,871	513,156
CLR-0775	196.85	-304	189.92	-1.78	8.03	±0.15	3.89	±0.10	191.87	-0.71	4.14	+0.18	243,734	530,258
CLR-0800	203.20	-304	195.15	-1.78	11.05	±0.18	4.88	±0.13	197.21	-0.71	5.16	+0.18	302,941	648,911
CLR-0825	209.55	-304	201.68	-1.78	11.05	±0.18	4.88	±0.13	203.56	-0.71	5.16	+0.18	312,411	669,191
CLR-0850	215.90	-304	207.75	-1.78	11.05	±0.18	4.88	±0.13	209.91	-0.71	5.16	+0.18	321,877	689,472
CLR-0875	222.25	-304	214.05	-1.78	11.05	±0.18	4.88	±0.13	216.26	-0.71	5.16	+0.18	331,343	709,747
CLR-0900	228.60	-304	220.29	-1.78	11.05	±0.18	4.88	±0.13	222.61	-0.71	5.16	+0.18	340,809	730,027
CLR-0925	234.95	-304	226.62	-1.78	11.05	±0.18	4.88	±0.13	228.96	-0.71	5.16	+0.18	350,279	750,303
CLR-0950	241.30	-304	231.90	-1.78	11.05	±0.18	4.88	±0.13	234.70	-0.71	5.16	+0.18	396,328	770,583
CLR-0975	247.65	-304	238.58	-2.30	11.05	±0.18	4.88	±0.13	241.05	-0.71	5.16	+0.18	406,757	790,863
CLR-1000	254.00	-304	243.48	-2.30	12.70	±0.18	4.88	±0.13	246.02	-0.79	5.16	+0.18	503,836	811,139
CLR-1025	260.35	-304	249.58	-2.30	12.70	±0.18	4.88	±0.13	252.37	-0.79	5.16	+0.18	516,430	831,419
CLR-1050	266.70	-304	256.06	-2.30	12.70	±0.18	4.88	±0.13	258.72	-0.79	5.16	+0.18	529,028	851,699
CLR-1075	273.05	-304	262.36	-2.30	12.70	±0.18	4.88	±0.13	265.07	-0.79	5.16	+0.18	541,622	871,975
CLR-1100	279.40	-304	268.83	-2.30	12.70	±0.18	4.88	±0.13	271.42	-0.79	5.16	+0.18	554,216	892,255

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel.

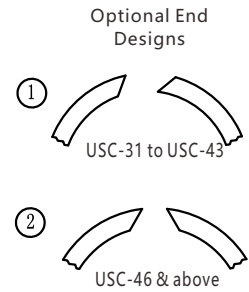
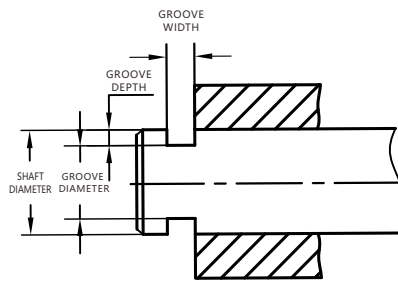
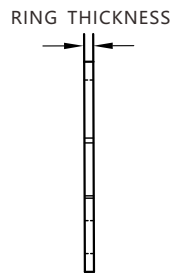
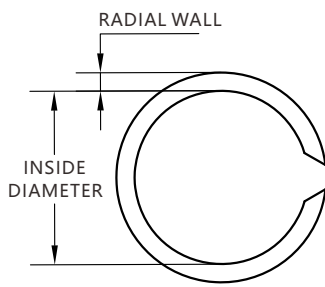
Constant Section Retaining Rings For Shaft



Lispring Part Number ¹		Shaft Diameter (mm)	Ring						Groove				Thrust Capacity	
Carbon Steel	304 SS		Inside Diameter (mm)	Radial Wall (mm)		Thickness (mm)		Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)	
	Add Suffix													
USC-31	-304	7.92	7.14	-0.38	1.02	±0.08	0.64	±0.05	7.37	±0.05	0.71	±0.08	1,103	4,436
USC-34	-304	8.74	7.92	-0.38	1.02	±0.08	0.64	±0.05	8.18	±0.05	0.71	±0.08	1,212	4,890
USC-35	-304	8.99	8.13	-0.38	1.02	±0.08	0.64	±0.05	8.38	±0.05	0.71	±0.08	1,362	5,030
USC-37	-304	9.53	8.66	-0.38	1.02	±0.08	0.64	±0.05	8.92	±0.05	0.71	±0.08	1,444	5,330
USC-39	-304	9.98	9.12	-0.51	1.02	±0.08	0.64	±0.05	9.37	±0.05	0.71	±0.08	1,512	5,589
USC-40	-304	10.31	9.45	-0.51	1.02	±0.08	0.64	±0.05	9.70	±0.05	0.71	±0.08	1,562	5,770
USC-43	-304	11.13	10.21	-0.51	1.02	±0.08	0.64	±0.05	10.46	±0.05	0.71	±0.08	1,825	6,224
USC-46	-304	11.91	11.00	-0.51	1.02	±0.08	0.64	±0.05	11.25	±0.05	0.71	±0.08	1,957	6,665
USC-50	-304	12.70	11.79	-0.63	1.22	±0.08	0.89	±0.05	12.04	±0.05	0.99	±0.08	2,084	9,411
USC-55	-304	14.00	13.06	-0.63	1.22	±0.08	0.89	±0.05	13.31	±0.05	0.99	±0.08	2,388	10,374
USC-56	-304	14.27	13.31	-0.63	1.22	±0.08	0.89	±0.05	13.56	±0.05	0.99	±0.08	2,524	10,583
USC-59	-304	15.09	14.10	-0.63	1.22	±0.08	0.89	±0.05	14.38	±0.05	0.99	±0.08	2,670	11,182
USC-62	-304	15.88	14.88	-0.63	1.57	±0.08	0.89	±0.05	15.16	±0.05	0.99	±0.08	2,810	11,768
USC-66	-304	16.99	16.00	-0.63	1.57	±0.08	0.89	±0.05	16.26	±0.05	0.99	±0.08	3,114	12,594
USC-68	-304	17.48	16.36	-0.63	1.57	±0.08	1.07	±0.05	16.66	±0.05	1.17	±0.08	3,532	15,699
USC-75	-304	19.05	17.86	-0.63	1.57	±0.08	1.07	±0.05	18.19	±0.05	1.17	±0.08	4,091	17,116
USC-78	-304	19.84	18.62	-0.63	1.57	±0.08	1.07	±0.05	18.92	±0.05	1.17	±0.08	4,513	17,824
USC-81	-304	20.62	19.41	-0.63	1.57	±0.08	1.07	±0.05	19.71	±0.05	1.17	±0.08	4,690	18,532
USC-87	-304	22.23	20.83	-0.79	1.98	±0.08	1.07	±0.05	21.21	±0.08	1.17	±0.08	5,616	19,967
USC-93	-304	23.83	22.38	-0.79	1.98	±0.08	1.07	±0.05	22.76	±0.08	1.17	±0.08	6,320	21,406
USC-98	-304	24.99	23.50	-0.79	1.98	±0.08	1.07	±0.05	23.88	±0.08	1.17	±0.08	6,946	22,455
USC-100	-304	25.40	23.90	-0.79	2.36	±0.08	1.07	±0.05	24.28	±0.08	1.17	±0.08	7,060	22,823
USC-102	-304	25.98	24.43	-0.79	2.36	±0.08	1.07	±0.05	24.82	±0.08	1.17	±0.08	7,550	23,345
USC-106	-304	26.97	25.40	-0.79	2.36	±0.08	1.27	±0.05	25.81	±0.08	1.42	±0.10	7,841	28,475
USC-112	-304	28.58	26.92	-0.79	2.36	±0.08	1.27	±0.05	27.31	±0.08	1.42	±0.10	9,026	30,164
USC-118	-304	30.18	28.47	-0.79	2.36	±0.08	1.27	±0.05	28.85	±0.10	1.42	±0.10	9,911	31,857
USC-125	-304	31.75	29.95	-0.79	2.36	±0.08	1.27	±0.05	30.33	±0.10	1.42	±0.10	11,232	33,519
USC-131	-304	33.32	31.29	-0.79	2.36	±0.08	1.27	±0.05	31.75	±0.10	1.42	±0.10	13,053	35,180
USC-137	-304	34.93	32.79	-0.79	2.77	±0.08	1.27	±0.05	33.25	±0.10	1.42	±0.10	14,560	36,869
USC-143	-304	36.53	34.32	-0.79	2.77	±0.08	1.27	±0.05	34.80	±0.10	1.42	±0.10	15,690	38,558
USC-150	-304	38.10	35.76	-0.79	2.77	±0.08	1.27	±0.05	36.32	±0.10	1.42	±0.10	16,848	40,220
USC-156	-304	39.67	37.26	-1.17	3.18	±0.13	1.57	±0.05	37.85	±0.10	1.73	±0.10	18,047	49,949
USC-162	-304	41.28	38.79	-1.17	3.18	±0.13	1.57	±0.05	39.40	±0.10	1.73	±0.10	19,295	51,965
USC-168	-304	42.85	40.16	-1.17	3.18	±0.13	1.57	±0.05	40.92	±0.10	1.73	±0.10	20,571	53,944
USC-175	-304	44.45	41.66	-1.17	3.18	±0.13	1.57	±0.05	42.42	±0.10	1.73	±0.10	22,464	55,960
USC-177	-304	44.98	42.09	-1.17	3.58	±0.13	1.57	±0.05	42.85	±0.10	1.73	±0.10	23,871	56,632
USC-181	-304	46.02	43.13	-1.17	3.58	±0.13	1.57	±0.05	43.89	±0.10	1.73	±0.10	24,421	57,944
USC-187	-304	47.63	44.68	-1.17	3.96	±0.13	1.57	±0.05	45.44	±0.10	1.73	±0.10	25,873	59,955
USC-196	-304	50.01	46.96	-1.17	3.96	±0.13	1.57	±0.05	47.73	±0.15	1.73	±0.10	28,434	62,965
USC-200	-304	50.80	47.75	-1.17	3.96	±0.13	1.57	±0.05	48.51	±0.15	1.73	±0.10	28,883	63,955
USC-206	-304	52.37	49.17	-1.17	3.96	±0.13	1.98	±0.05	49.94	±0.15	2.18	±0.13	31,762	79,409
USC-212	-304	53.98	50.72	-1.17	3.96	±0.13	1.98	±0.05	51.49	±0.15	2.18	±0.13	33,414	81,834
USC-215	-304	54.76	51.46	-1.17	3.96	±0.13	1.98	±0.05	52.22	±0.15	2.18	±0.13	34,595	83,028
USC-225	-304	57.15	53.75	-1.17	3.96	±0.13	1.98	±0.05	54.51	±0.15	2.18	±0.13	37,546	86,646
USC-231	-304	58.72	55.22	-1.17	4.75	±0.13	1.98	±0.05	55.98	±0.15	2.18	±0.13	40,066	89,034
USC-237	-304	60.33	56.77	-1.17	4.75	±0.13	1.98	±0.05	57.53	±0.15	2.18	±0.13	41,918	91,458
USC-243	-304	61.90	58.29	-1.17	4.75	±0.13	1.98	±0.05	59.06	±0.15	2.18	±0.13	43,797	93,846
USC-250	-304	63.50	59.84	-1.17	4.75	±0.13	1.98	±0.05	60.60	±0.15	2.18	±0.13	45,731	96,275

¹Suffix -304 appended to the part number denotes material as Grade 304 stainless steel.

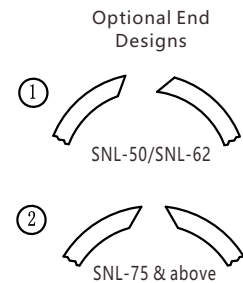
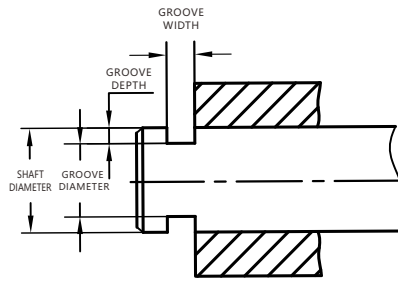
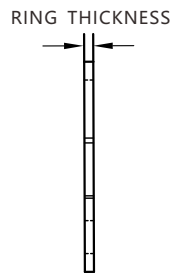
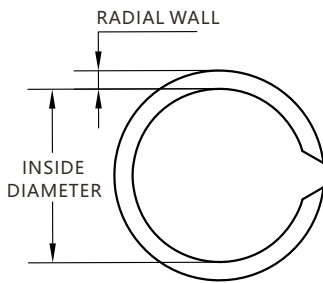
Constant Section Retaining Rings For Shaft



Lispring Part Number ¹		Shaft Diameter (mm)	Ring						Groove				Thrust Capacity	
Carbon Steel	304 SS		Inside Diameter (mm)	Radial Wall (mm)	Thickness (mm)				Diameter (mm)		Width (mm)		Groove Yield (N)	Ring Shear (N)
	Add Suffix													
USC-255	-304	65.00	61.29	-1.17	4.75	±0.13	1.98	±0.05	62.05	±0.15	2.18	±0.13	47,629	98,545
USC-262	-304	66.68	62.87	-1.17	4.75	±0.13	1.98	±0.05	63.63	±0.15	2.18	±0.13	50,544	101,088
USC-268	-304	68.25	64.39	-1.17	4.75	±0.13	1.98	±0.05	65.15	±0.15	2.18	±0.13	52,600	103,476
USC-275	-304	69.85	65.89	-1.57	4.75	±0.13	2.36	±0.05	66.65	±0.15	2.62	±0.13	55,597	127,084
USC-287	-304	73.03	68.91	-1.57	4.75	±0.13	2.36	±0.05	69.67	±0.15	2.62	±0.13	60,895	132,859
USC-293	-304	74.60	70.38	-1.57	4.75	±0.13	2.36	±0.05	71.15	±0.15	2.62	±0.13	64,091	135,723
USC-300	-304	76.20	71.88	-1.57	5.54	±0.13	2.36	±0.05	72.64	±0.15	2.62	±0.13	67,392	138,633
USC-306	-304	77.77	73.41	-1.57	5.54	±0.13	2.36	±0.05	74.17	±0.15	2.62	±0.13	69,766	141,498
USC-312	-304	79.38	74.96	-1.57	5.54	±0.13	2.36	±0.05	75.72	±0.15	2.62	±0.13	72,204	144,413
USC-315	-304	80.16	75.69	-1.57	5.54	±0.13	2.36	±0.05	76.45	±0.15	2.62	±0.13	73,934	145,843
USC-325	-304	82.55	77.98	-1.57	6.35	±0.13	2.36	±0.05	78.74	±0.15	2.62	±0.13	78,224	150,188
USC-334	-304	84.94	80.26	-1.57	6.35	±0.13	2.36	±0.05	81.03	±0.15	2.62	±0.13	82,633	154,533
USC-343	-304	87.30	82.58	-1.57	6.35	±0.13	2.36	±0.05	83.34	±0.15	2.62	±0.13	86,033	158,827
USC-350	-304	88.90	83.95	-1.98	6.35	±0.13	2.77	±0.05	84.84	±0.15	3.05	±0.13	89,856	181,677
USC-354	-304	89.99	84.99	-1.98	6.35	±0.13	2.77	±0.05	85.88	±0.15	3.05	±0.13	92,098	183,906
USC-362	-304	92.08	86.94	-1.98	6.35	±0.13	2.77	±0.05	87.83	±0.15	3.05	±0.13	97,138	188,165
USC-368	-304	93.65	88.44	-1.98	6.35	±0.13	2.77	±0.05	89.33	±0.15	3.05	±0.13	100,575	191,384
USC-375	-304	95.25	89.94	-1.98	6.35	±0.13	2.77	±0.05	90.83	±0.15	3.05	±0.13	104,697	194,653
USC-387	-304	98.43	92.89	-1.98	7.14	±0.13	2.77	±0.05	93.90	±0.15	3.05	±0.13	110,676	201,140
USC-393	-304	100.03	94.31	-1.98	7.14	±0.13	2.77	±0.05	95.45	±0.15	3.05	±0.13	113,736	204,409
USC-400	-304	101.60	95.78	-2.36	7.14	±0.13	2.77	±0.05	96.93	±0.15	3.05	±0.13	118,094	207,628
USC-425	-304	107.95	102.01	-2.36	7.14	±0.13	2.77	±0.05	103.28	±0.15	3.05	±0.13	125,477	220,608
USC-437	-304	111.13	105.18	-2.36	7.14	±0.13	2.77	±0.05	106.45	±0.15	3.05	±0.13	129,168	227,095
USC-450	-304	114.30	108.08	-2.36	7.92	±0.13	2.77	±0.05	109.47	±0.15	3.05	±0.13	137,190	233,583
USC-475	-304	120.65	114.17	-2.36	7.92	±0.13	2.77	±0.05	115.57	±0.15	3.05	±0.13	152,435	246,558
USC-500	-304	127.00	120.14	-2.36	7.92	±0.13	2.77	±0.05	121.67	±0.15	3.05	±0.13	168,479	259,538
USC-525	-304	133.35	126.24	-3.18	9.53	±0.13	3.18	±0.05	127.76	±0.15	3.53	±0.15	185,327	298,423
USC-550	-304	139.70	132.23	-3.18	9.53	±0.13	3.18	±0.05	133.76	±0.15	3.53	±0.15	206,506	312,633
USC-575	-304	146.05	138.33	-3.18	9.53	±0.13	3.18	±0.05	139.85	±0.15	3.53	±0.15	225,120	326,844
USC-590	-304	149.86	142.24	-3.18	9.53	±0.13	3.18	±0.05	143.66	±0.15	3.53	±0.15	230,995	335,370
USC-600	-304	152.40	144.45	-3.18	9.53	±0.13	3.18	±0.05	145.95	±0.15	3.53	±0.15	244,538	341,054
USC-625	-304	158.75	150.27	-3.18	11.10	±0.13	3.96	±0.05	152.04	±0.20	4.42	±0.20	264,755	427,350
USC-650	-304	165.10	156.24	-3.18	11.10	±0.13	3.96	±0.05	158.14	±0.20	4.42	±0.20	285,775	444,443
USC-675	-304	171.45	162.20	-3.18	11.10	±0.13	3.96	±0.05	164.24	±0.20	4.42	±0.20	307,594	461,536
USC-700	-304	177.80	168.17	-3.18	11.10	±0.13	3.96	±0.05	170.33	±0.20	4.42	±0.20	330,221	478,634
USC-725	-304	184.15	173.74	-3.96	12.70	±0.13	4.75	±0.05	176.02	±0.20	5.31	±0.20	372,262	564,458
USC-750	-304	190.50	180.09	-3.96	12.70	±0.13	4.75	±0.05	182.37	±0.20	5.31	±0.20	385,096	583,921
USC-800	-304	203.20	192.02	-3.96	12.70	±0.13	4.75	±0.05	194.56	±0.20	5.31	±0.20	436,444	622,847
USC-850	-304	215.90	204.47	-3.96	12.70	±0.13	4.75	±0.05	207.26	±0.20	5.31	±0.20	463,720	661,778
USC-900	-304	228.60	217.04	-3.96	12.70	±0.13	4.75	±0.05	219.96	±0.20	5.31	±0.20	490,996	700,704
USC-925	-304	234.95	223.52	-3.96	12.70	±0.13	4.75	±0.05	226.31	±0.20	5.31	±0.20	504,635	720,167
USC-950	-304	241.30	229.62	-3.96	12.70	±0.13	4.75	±0.05	232.66	±0.20	5.31	±0.20	518,277	739,634
USC-1000	-304	254.00	242.19	-3.96	12.70	±0.13	4.75	±0.05	245.36	±0.20	5.31	±0.20	545,554	778,560

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel.

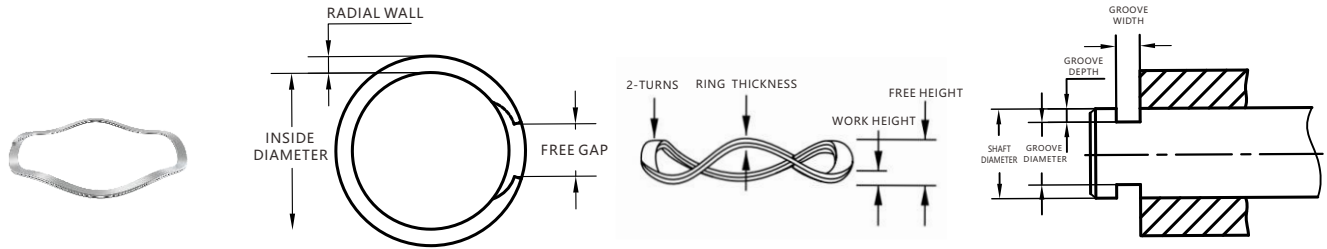
Constant Section Retaining Rings For Shaft



Lispring Part Number ¹		Shaft Diameter (mm)	Ring						Groove			Thrust Capacity		
Carbon Steel	304 SS Add Suffix		Inside Diameter (mm)	Radial Wall (mm)	Thickness (mm)		Diameter (mm)	Width (mm)	Groove Yield (N)	Ring Shear (N)				
SNL-50	-304	12.70	11.81	-0.63	1.22	±0.08	0.89	±0.05	12.04	±0.05	0.99	+0.08	2,084	9,411
SNL-62	-304	15.88	14.91	-0.63	1.57	±0.08	0.89	±0.05	15.16	±0.05	0.99	+0.08	2,810	11,768
SNL-75	-304	19.05	17.88	-0.63	1.98	±0.08	1.07	±0.05	18.19	±0.05	1.17	+0.08	4,091	17,116
SNL-87	-304	22.23	20.90	-0.79	2.36	±0.08	1.07	±0.05	21.16	±0.08	1.17	+0.08	5,897	19,967
SNL-100	-304	25.40	23.98	-0.79	2.36	±0.08	1.07	±0.05	24.23	±0.08	1.17	+0.08	7,382	22,823
SNL-112	-304	28.58	27.05	-0.79	3.18	±0.13	1.07	±0.05	27.36	±0.08	1.17	+0.08	8,667	25,674
SNL-118	-304	30.15	28.45	-0.79	3.18	±0.13	1.07	±0.05	28.83	±0.10	1.17	+0.08	9,906	27,090
SNL-125	-304	31.75	29.95	-0.79	3.18	±0.13	1.07	±0.05	30.33	±0.10	1.17	+0.08	11,232	28,525
SNL-131	-304	33.32	31.29	-0.79	3.18	±0.13	1.07	±0.05	31.80	±0.10	1.17	+0.08	12,630	29,941
SNL-137	-304	34.93	32.74	-0.79	3.18	±0.13	1.07	±0.05	33.25	±0.10	1.17	+0.08	14,560	31,380
SNL-143	-304	36.50	34.26	-0.79	3.18	±0.13	1.07	±0.05	34.77	±0.10	1.17	+0.08	15,681	32,792
SNL-150	-304	38.10	35.81	-0.79	3.18	±0.13	1.07	±0.05	36.32	±0.10	1.17	+0.08	16,848	34,232
SNL-162	-304	41.28	38.61	-1.57	3.96	±0.13	1.07	±0.05	39.24	±0.10	1.17	+0.08	20,861	37,083
SNL-168	-304	42.85	40.18	-1.57	3.96	±0.13	1.07	±0.05	40.82	±0.10	1.17	+0.08	21,656	38,499
SNL-175	-304	44.45	41.78	-1.57	3.96	±0.13	1.07	±0.05	42.42	±0.10	1.17	+0.08	22,464	39,934
SNL-193	-304	49.20	46.53	-1.57	3.96	±0.13	1.07	±0.05	47.17	±0.15	1.17	+0.08	24,866	44,201
SNL-200	-304	50.80	48.13	-1.57	3.96	±0.13	1.07	±0.05	48.77	±0.15	1.17	+0.08	25,674	45,641
SNL-218	-304	55.55	52.88	-1.57	3.96	±0.13	1.07	±0.05	53.52	±0.15	1.17	+0.08	28,075	49,908
SNL-225	-304	57.15	54.48	-1.57	3.96	±0.13	1.07	±0.05	55.12	±0.15	1.17	+0.08	28,883	51,347
SNL-237	-304	60.33	57.66	-1.57	3.96	±0.13	1.07	±0.05	58.29	±0.15	1.17	+0.08	30,486	54,199
SNL-250	-304	63.50	60.71	-1.57	3.96	±0.13	1.07	±0.05	61.47	±0.15	1.17	+0.08	32,093	57,050
SNL-275	-304	69.85	65.94	-1.98	4.75	±0.13	1.57	±0.05	66.70	±0.15	1.73	+0.10	54,716	87,935
SNL-293	-304	74.60	70.69	-1.98	4.75	±0.13	1.57	±0.05	71.45	±0.15	1.73	+0.10	58,434	93,919
SNL-300	-304	76.20	72.29	-1.98	4.75	±0.13	1.57	±0.05	73.05	±0.15	1.73	+0.10	59,692	95,930
SNL-312	-304	79.38	75.31	-1.98	4.75	±0.13	1.57	±0.05	76.20	±0.15	1.73	+0.10	62,679	99,930
SNL-325	-304	82.55	78.49	-1.98	4.75	±0.13	1.57	±0.05	79.38	±0.15	1.73	+0.10	65,185	103,925
SNL-337	-304	85.73	81.66	-1.98	4.75	±0.13	1.57	±0.05	82.55	±0.15	1.73	+0.10	67,691	107,925
SNL-350	-304	88.90	84.84	-1.98	4.75	±0.13	1.57	±0.05	85.73	±0.15	1.73	+0.10	70,202	111,920
SNL-375	-304	95.25	90.68	-2.36	5.54	±0.13	1.98	±0.05	91.69	±0.15	2.18	+0.13	84,240	144,413
SNL-400	-304	101.60	97.03	-2.36	5.54	±0.13	1.98	±0.05	98.04	±0.15	2.18	+0.13	89,856	154,038
SNL-425	-304	107.95	103.38	-2.36	5.54	±0.13	1.98	±0.05	104.39	±0.15	2.18	+0.13	95,472	163,667
SNL-450	-304	114.30	109.73	-2.36	5.54	±0.13	1.98	±0.05	110.74	±0.15	2.18	+0.13	101,088	173,292
SNL-475	-304	120.65	115.82	-2.36	5.54	±0.13	1.98	±0.05	117.09	±0.15	2.18	+0.13	106,704	182,921
SNL-500	-304	127.00	121.92	-2.36	5.54	±0.13	1.98	±0.05	123.44	±0.15	2.18	+0.13	112,320	192,550
SNL-550	-304	139.70	134.11	-3.18	6.35	±0.13	2.36	±0.05	135.64	±0.15	2.62	+0.13	141,203	254,163
SNL-600	-304	152.40	146.69	-3.18	6.35	±0.13	2.36	±0.05	148.34	±0.20	2.62	+0.13	154,038	277,271
SNL-650	-304	165.10	159.26	-3.18	6.35	±0.13	2.36	±0.05	161.04	±0.20	2.62	+0.13	166,877	300,375
SNL-700	-304	177.80	171.83	-3.18	6.35	±0.13	2.36	±0.05	173.74	±0.20	2.62	+0.13	179,711	323,480
SNL-750	-304	190.50	184.02	-3.96	7.14	±0.13	2.77	±0.05	185.93	±0.20	3.05	+0.13	216,617	389,305
SNL-800	-304	203.20	196.60	-3.96	7.14	±0.13	2.77	±0.05	198.63	±0.20	3.05	+0.13	231,059	415,256

¹ Suffix -304 appended to the part number denotes material as Grade 304 stainless steel.

Wave Spiral Retaining Rings For Shaft



Lispring Part Number ¹		Groove Diameter	Groove Width	Shaft Diameter	Load	Work Height	Free ² Height	Number of Waves	Thickness	Radial Wall	Offset (Yes/No)
Carbon Steel	17-7PH Add Suffix	mm	mm	mm	N	mm	mm		mm	mm	
WZW-75	-S17	17.88	3.05	19.05	111.25	2.16	2.92	3	1.07	1.65	No
WZW-87	-S17	20.85	3.45	22.23	133.50	2.16	3.33	3	1.07	1.91	No
WZW-100	-S17	23.88	3.40	25.40	151.30	2.16	3.28	3	1.07	2.16	No
WZW-112	-S17	26.90	3.61	28.58	169.10	2.54	3.48	3	1.27	3.25	No
WZW-125	-S17	29.87	3.81	31.75	178.00	2.54	3.68	3	1.27	3.25	No
WZW-137	-S17	32.79	3.43	34.93	200.25	2.54	3.30	4	1.27	3.25	No
WZW-150	-S17	35.71	3.33	38.10	222.50	2.54	3.20	4	1.27	3.25	No
WZW-162	-S17	38.84	3.63	41.28	244.75	2.79	3.51	4	1.57	4.01	No
WZW-175	-S17	41.91	3.61	44.45	267.00	2.79	3.48	4	1.57	4.01	No
WZW-187	-S17	44.93	3.68	47.63	280.35	2.79	3.56	4	1.57	4.01	No
WZW-200	-S17	47.90	3.81	50.80	289.25	2.79	3.68	4	1.57	4.01	No
WZW-212	-S17	50.88	4.45	53.98	311.50	3.30	4.32	4	1.98	4.78	No
WZW-225	-S17	53.85	4.57	57.15	333.75	3.30	4.45	4	1.98	4.78	No
WZW-237	-S17	56.87	4.57	60.33	356.00	3.30	4.45	4	1.98	4.78	No
WZW-250	-S17	59.94	4.47	63.50	373.80	3.30	4.34	4	1.98	4.78	No
WZW-262	-S17	63.02	4.83	66.68	391.60	3.30	4.60	4	1.98	4.78	No
WZW-275	-S17	66.09	5.64	69.85	418.30	4.32	5.51	4	2.36	5.72	Yes
WZW-287	-S17	69.11	5.64	73.03	431.65	4.32	5.51	4	2.36	5.72	Yes
WZW-300	-S17	72.09	5.84	76.20	445.00	4.32	5.72	4	2.36	5.72	Yes
WZW-312	-S17	75.11	5.97	79.38	458.35	4.32	5.84	4	2.36	5.72	Yes
WZW-325	-S17	78.13	5.84	82.55	471.70	4.32	5.72	4	2.36	5.72	Yes
WZW-350	-S17	84.23	6.35	88.90	511.75	4.70	6.22	4	2.82	7.14	Yes
WZW-362	-S17	87.25	6.48	92.08	520.65	4.70	6.35	4	2.82	7.14	Yes
WZW-375	-S17	90.22	6.68	95.25	538.45	4.70	6.55	4	2.82	7.14	Yes
WZW-387	-S17	93.29	6.60	98.43	560.70	4.70	6.48	4	2.82	7.14	Yes
WZW-400	-S17	96.32	6.93	101.60	578.50	4.70	6.81	4	2.82	7.14	Yes
WZW-412	-S17	99.54	6.81	104.78	596.30	4.70	6.68	4	2.82	7.14	Yes
WZW-425	-S17	103.25	6.43	107.95	623.00	4.70	6.30	5	2.82	7.14	Yes
WZW-450	-S17	109.47	6.63	114.30	667.50	4.70	6.50	5	2.82	7.14	Yes
WZW-475	-S17	115.57	6.55	120.65	712.00	4.70	6.43	5	2.82	7.14	Yes
WZW-500	-S17	121.67	6.71	127.00	756.50	4.70	6.58	5	2.82	7.14	Yes

¹Suffix -S17 at the end of part numbers denotes 17-7PH stainless steel material.

²Reference dimension

Maximum Allowable RPM for Spiral Retaining Rings - Metric

No.	VZM	EZ	DNZ	DCL	No.	VZM	EZ	DNZ	DCL	No.	VZM	EZ	DNZ	DCL	No.	VZM	EZ	DNZ	DCL
6	51550	37561	—	—	35	7013	7433	7636	11708	71	—	2300	—	—	170	946	746	715	1152
7	39734	31779	—	—	36	6649	6855	8482	11653	72	3220	2308	2807	3952	175	896	694	671	1089
8	40531	29324	—	—	37	—	7177	—	—	75	2952	2140	2539	3653	180	847	654	636	1030
9	35639	24392	—	—	38	6001	7124	7563	10533	77	—	—	2381	3472	185	901	629	601	1116
10	31844	22551	—	—	40	7581	6147	7187	10854	78	3160	1996	2306	3736	190	854	589	578	861
11	25210	16847	—	—	42	6894	5692	6552	8983	80	3027	1975	2578	3752	195	815	567	552	881
12	30936	21862	—	—	45	6027	5137	5746	7871	82	2902	1889	2427	3578	200	775	532	518	838
13	26858	19879	22937	31272	46	—	4888	5510	7014	85	2705	1816	2311	3480	205	—	—	662	1069
14	22403	18269	19986	21662	47	—	5553	5288	7240	88	2527	1728	2123	3294	210	802	576	624	1078
15	19664	14381	17853	24340	48	5314	5726	5080	7891	90	2445	1716	2010	2735	220	733	528	570	932
16	17398	14007	18147	29179	50	4906	4071	5656	7898	95	2175	1505	1761	2601	230	674	480	523	855
17	14988	15761	15690	19889	52	6062	3600	5257	7330	98	—	—	1644	2380	240	622	442	481	736
18	13466	12138	16207	22659	53	—	3435	—	—	100	1957	1504	1564	2545	250	576	411	447	727
19	12164	11592	14232	20465	54	—	3281	4847	6822	102	—	—	1607	2749	260	582	380	474	744
20	11041	10724	12958	18576	55	5384	3338	4684	6587	105	2083	1393	1507	2642	270	541	352	437	719
21	14596	9562	12484	16936	56	5243	3194	4529	6365	108	—	—	1437	2420	280	505	327	407	715
22	13357	10284	11429	13555	58	4894	3090	4363	5952	110	1903	1319	1392	2281	290	473	—	383	625
23	—	9545	10503	14247	59	—	2963	—	—	115	1746	1244	1281	2092	300	442	—	357	585
24	11049	8385	10764	19123	60	4579	2843	4054	4801	120	1607	1174	1176	1696	310	—	—	416	—
25	10227	8473	9963	12007	61	—	2665	—	—	125	1484	1090	1089	1779	320	—	—	385	—
26	12498	8583	9248	12521	62	4326	2873	3742	5499	130	1375	991	1018	1649	330	—	—	364	—
27	—	11206	8671	14351	63	4223	2762	3695	5080	135	1271	932	953	1532	340	—	—	343	—
28	10661	10122	8620	15259	64	—	2769	—	—	140	1187	868	889	1520	350	—	—	323	—
29	9986	9633	8071	18050	65	3970	2568	3433	4812	145	1111	819	836	1332	360	—	—	305	—
30	9546	9024	7572	12213	66	—	2517	—	—	150	1023	753	908	1471	370	—	—	291	—
31	—	8378	—	—	67	—	2266	3242	4469	155	962	888	845	1380	380	—	—	276	—
32	8447	7670	8695	14242	68	3605	2477	3204	3950	160	1061	828	796	1297	390	—	—	262	—
33	—	—	8214	9529	69	—	2429	—	—	165	1001	792	754	1202	400	—	—	251	—
34	7408	7928	7771	10868	70	3405	2307	2984	4417										

Maximum Allowable RPM for Spiral Retaining Rings - Imperial

No.	VZ	WZ	WZT	WZM	CLR	No.	VZ	WZ	WZT	WZM	CLR	No.	VZ	WZ	WZT	WZM	CLR	No.	VZ	WZ	WZT	WZM	CLR
25	49373	—	—	36572	—	125	8464	6703	6512	8001	12093	262	3675	2463	2795	2749	4104	425	1974	1370	1469	1436	2355
31	38500	—	—	32391	—	128	—	5921	—	—	—	268	3547	2465	2645	2693	4795	431	—	1300	—	—	—
37	27860	—	—	23612	—	131	7903	6309	5768	8230	13919	275	3398	2329	2586	2807	3970	433	—	1301	—	—	—
43	24711	—	—	17306	—	134	—	5963	—	—	—	281	3218	2382	—	—	4088	437	1856	1290	1262	1366	2215
46	—	—	29016	21277	—	137	7047	6107	5921	7387	11014	287	3089	2263	2266	2586	3927	443	—	1232	—	—	—
50	28381	24807	21024	20451	33117	140	—	5536	—	—	—	293	2951	2148	2220	2488	3727	450	1756	1275	1214	1296	2125
53	—	21405	—	—	—	143	6527	5479	5142	6759	11584	295	—	2154	—	—	—	456	—	1290	—	—	—
55	—	19547	17967	17765	—	146	—	5053	—	—	—	300	2838	2079	2134	2419	3537	462	1671	1247	—	—	2004
56	20470	18098	17117	16926	32291	150	5876	4931	4651	7546	12210	306	3182	2021	2107	2304	3246	468	—	1220	—	—	—
59	—	17148	15075	15595	—	156	7716	5332	5198	6111	9005	312	3027	1991	1990	2264	3850	472	—	1177	—	—	—
62	17723	19619	15618	14946	21518	157	—	5225	—	—	—	314	—	1998	—	—	—	475	1585	1180	1158	1177	2199
65	—	16601	—	—	—	162	7262	4928	4695	5785	9165	315	—	—	1995	2192	—	481	—	1143	—	—	—
66	—	16609	15913	14256	—	168	6631	4960	4089	5289	8582	318	2941	1926	—	—	3717	487	1519	1124	—	—	1814
68	15439	15581	15718	13695	20052	175	6201	4535	3941	4965	8040	325	2785	1878	1892	2103	3543	493	—	1084	—	—	—
71	—	12985	—	—	—	177	—	4379	3962	4951	—	331	2725	1846	—	—	3591	500	1444	997	1024	1081	1726
75	12435	14357	12850	12112	22022	181	5756	4283	4139	4690	8518	334	—	1843	1810	1965	—	511	—	999	—	—	—
78	—	13012	11342	11029	—	187	5407	4230	3868	5108	6472	337	2634	1788	—	—	3430	512	—	1021	—	—	—
81	15661	12629	11227	10089	17275	193	5097	4691	—	—	8039	343	2519	1748	1694	1889	3321	525	1309	971	1284	1213	1579
84	—	10567	—	—	—	196	—	3874	3316	4719	—	350	2437	1706	2027	2104	3233	537	—	895	—	—	—
87	12706	10706	10614	10147	17396	200	4712	3746	3390	4553	7679	354	—	1734	1970	2080	—	550	1192	891	1167	1121	1363
90	—	9224	—	—	—	206	5956	3577	3334	3842	7129	356	2374	1677	—	—	3535	551	—	875	—	—	—
93	11556	9418	9292	8596	12828	212	5535	3402	3160	3593	6627	362	2274	1661	1854	1972	2966	562	—	839	—	—	—
96	—	8979	—	—	—	215	—	3502	3132	3425	—	368	2205	1605	1854	1896	2894	575	1091	815	1098	1036	1309
98	—	9571	7180	8704	—	216	—	3368	—	—	—	374	—	1520	—	—	—	587	—	783	—	—	—
100	9844	9197	7966	9104	18601	218	5299	3285	—	—	6306	375	2115	1539	1795	1854	2958	590	—	763	—	—	—
102	—	9025	7552	8437	—	225	5071	3212	2802	3237	6057	381	2064	1469	—	—	2711	600	1002	749	1003	946	1424
103	—	8207	—	—	—	231	4708	3018	2725	3040	5825	387	2014	1505	1624	1756	2939	612	—	883	—	—	—
106	11665	8636	8615	11303	11570	236	—	2863	—	—	—	393	1927	1517	1563	1689	2532	625	1077	857	807	1087	1309
109	—	7378	—	—	—	237	4518	2901	2557	3404	6364	400	1882	1474	1565	1667	2262	629	—	834	—	—	—
112	10144	7497	7993	9863	12331	243	4241	2896	2488	3162	5078	406	—	1401	—	—	—	637	—	810	—	—	—
115	—	6784	—	—	—	250	4079	2720	3039	3089	4983	412	2094	1350	—	—	2369	650	996	793	738	960	1250
118	9259	7359	6358	8993	15057	255	—	2579	2873	2916	—	413	—	1375	—	—	—	662	—	751	—	—	—
121	—	6352	—	—	—	256	3901	2571	—	—	5137	418	—	1196	—	—	—	675	933	734	687	986	1138

Spiral Retaining Rings Design

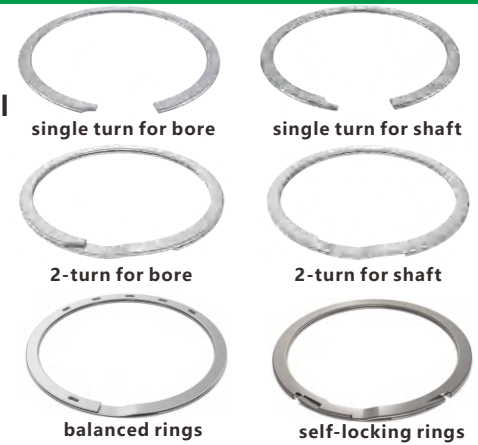
Structure and Types

Spiral retaining rings are installed in shaft or bore grooves to prevent **axial movement of components**.

Formed by **winding wire**, spiral retaining rings provide **continuous 360° support** without lugs, avoiding interference in compact assemblies.

Available in **external and internal types** with **single-turn, double-turn, and multi-turn designs**. Load capacity can be optimized by adjusting material thickness, radial wall width, and number of turns.

Balanced and self-locking designs are available for special applications.



Operating Conditions and Materials

Design considerations include temperature, corrosion, load conditions, speed, acceleration, and assembly frequency.

Load calculations are based on **static axial loads**. Additional **safety margins and testing** are recommended for dynamic, eccentric, impact, or vibration conditions.

Materials:

Carbon Spring Steel

Suitable for general applications.

Stainless Steel

Suitable for corrosive or high-cleanliness environments.

Precipitation-Hardened Stainless Steel / High-Temperature Alloys

Suitable for high-temperature or highly corrosive environments.

Selection Information

Please provide:

- **Installation type:** External / Internal
- **Installation Dimensions:** shaft or bore diameter, groove size, and distance from groove to end face
- **Load conditions:** axial load, direction, speed, acceleration, vibration, and impact
- **Operating Environment:** temperature, media, corrosion requirements
- **Assembly requirements:** installation space, frequency, and special requirements

Load Capacity

Axial load capacity is limited by:

- **Ring cross-section shear strength**
- **Groove material yield strength**

The allowable load is determined by the lower value of these limits.

For critical applications, **dynamic loads, eccentric loads, groove radius, and contact conditions** should also be considered.

Groove Geometry

Proper groove geometry ensures **uniform load transfer**. Groove surfaces should be **perpendicular to the shaft axis**. Contact points should be close to the **shaft or bore** to reduce additional stress.

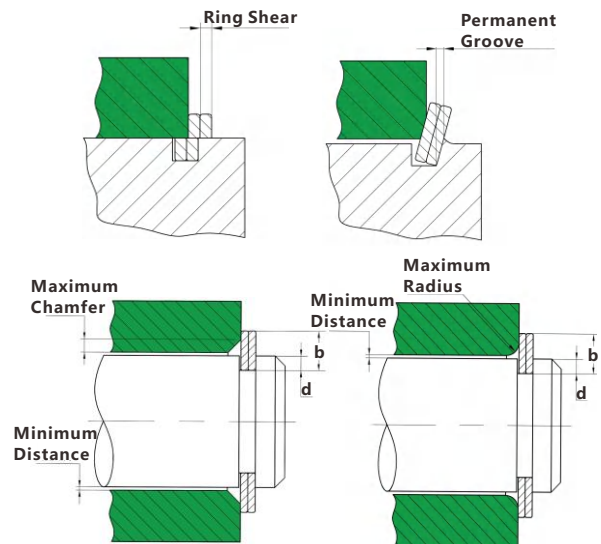
Recommended limits:

Shaft or bore diameter ≤ 25 mm: **Maximum groove radius 0.10 mm**

Shaft or bore diameter > 25 mm: **Maximum groove radius 0.25 mm**

Maximum chamfer: $0.375(b-d)$

Maximum radius: $0.5(b-d)$



Rotational Performance

High-speed rotation generates **centrifugal force**, causing **radial expansion** and reduced groove contact. The **maximum allowable speed** depends on ring mass, geometry, material properties, and groove contact. For high-speed or high-vibration applications, **balanced rings** are recommended.

Spiral Retaining Rings Design

Installation Stress and Assembly

During installation, **external retaining rings** are expanded and **internal retaining rings** are compressed, creating **installation stress**.

For special installation conditions, verify assembly to avoid **permanent plastic deformation**.

External retaining rings: Expansion stress $\leq 80\%$ of minimum tensile strength.

Internal retaining rings: Compression stress can be preliminarily checked at **100% of minimum tensile strength**.

Installation Stress Calculation:

External retaining rings: $S_E = Eb(D_s - D_i) / (D_i + b)(D_s + b)$

Internal retaining rings: $S_C = Eb(D_o - D_H) / (D_o - b)(D_H - b)$

Where: S_E = Stress caused by expansion (N/mm²)

S_C = Stress caused by compression (N/mm²)

E = Modulus of elasticity (N/mm²)

b = Radial wall width (mm)

D_s = Shaft diameter (mm)

D_H = Bore diameter (mm)

D_i = Minimum free inside diameter (mm)

D_o = Maximum free outside diameter (mm)

For high-load or vibration applications, additional safety margins and verification are recommended. For custom designs exceeding the elastic range, **controlled presetting** may be applied and verified.

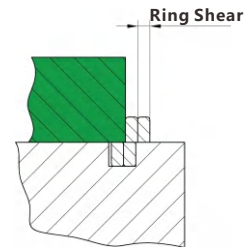
Calculation Formulas

Axial Load Capacity (Ring Shear)

Under load, **retaining rings** normally do not fail by direct **shear**. However, **ring shear strength** may become a **design limitation** when using high-strength groove materials.

$$P_R = DTS_s\pi/K$$

Where: P_R = Allowable axial load by ring shear (N) t = Single-layer material thickness (mm)
 D = Shaft or bore diameter (mm) S_s = Ring material shear strength (N/mm²)
 T = Total ring thickness = $n \times t$ K = Safety factor (Recommended: 3)
 n = Number of turns

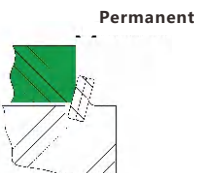


Allowable Groove Load

Groove deformation is a common **design limitation**. Permanent deformation may cause **ring twisting** and **diameter expansion**. Allowable load should be verified by material testing, groove design, and actual operating conditions.

$$P_G = DdS_y\pi/K$$

Where: P_G = Allowable axial load limited by groove deformation (N)
 D = Shaft or bore diameter (mm)
 d = Groove depth (mm)
 K = Safety factor (Recommended: 2)
 S_y = Groove material yield strength (N/mm²), See table on the right



Typical Yield Strength of Groove Materials	
Hardened Steel 8620	750 N/mm ²
Cold Drawn Steel 1018	500 N/mm ²
Hot Rolled Steel 1018	310 N/mm ²
Aluminum 2017	275 N/mm ²
Cast Iron	70-275 N/mm ²

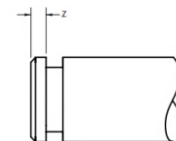
Use certified material properties for final design

Edge Margin

Sufficient **edge margin** is required to prevent **shear failure and local yielding**. Verify the design based on **axial load, groove depth, and material strength**, using the **larger calculated result** as the design control value.

$$\text{Shear: } Z = 3KP / (S_y D_g \pi) \quad \text{Bending: } Z = [6KdP / (S_y D_g \pi)]^{1/2}$$

Where: Z = Edge margin (mm) S_y = Groove material yield strength (N/mm²)
 P = Load (N) d = Groove depth (mm)
 D_g = Groove diameter (mm) K = Safety factor (Recommended: 3)



Maximum Allowable Speed of External Retaining Rings

High-speed rotation may cause **radial expansion** due to **centrifugal force**. Allowable speed should be verified based on ring dimensions, material properties, and assembly conditions.

$$N = \{3600VEI_g / [(4\pi^2)Y\gamma AR_M^5]\}^{1/2}$$

Where: N = Maximum allowable speed (rpm)
 V = Radial engagement $\div 2 = (D_g - D_i) \div 2$ (mm)
 D_g = Groove diameter (mm)
 D_i = Minimum free inside diameter (mm)
 E = Modulus of elasticity (N/mm²)
 I = Section moment of inertia = $(t \times b^3) \div 12$ (mm⁴)
 b = Radial wall width (mm)

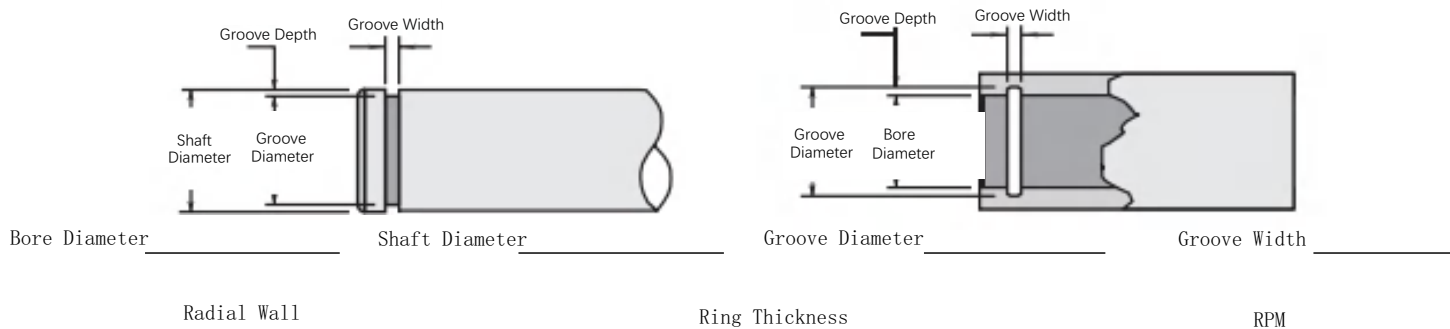
t = Single-layer material thickness (mm)
 g = Gravitational acceleration (mm/s²), 9810 mm/s²
 γ = Specific weight (N/mm³)
 A = Cross-sectional area = $(t \times b) - (0.12)t^2$ (mm²)
 R_M = Mean free radius = $(D_i + b) \div 2$ (mm)
 n = Number of turns
 Y = Correction factor .See table on the right

n	1	2	3	4
Y	1.909	3.407	4.958	6.520

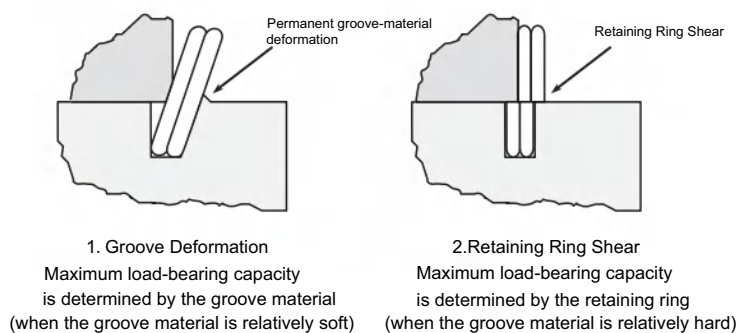
Retaining rings - Application requirements

Name _____ Title _____ Date _____
 Company _____ Address _____
 Phone _____ Fax _____ E-mail _____

Dimension unit: () Metric (mm) () Imperial(in)



Axial load carrying capacity



If axial load is required, please specify:

Groove material _____

Load capacity _____ (N)

Surface treatment

- ☐ Oil
☐ Degrease
☐ Passivation
☐ Black oxide
☐ Phosphate
☐ Deburr
 Other _____

Material

Please consider the actual service environment

Temperature _____
 () °C () °F

Corrosive media

- ☐ Carbon Steel
☐ 304 SS
☐ 316 SS
☐ Inconel X-750
☐ A-286

Other _____

Applications Description

Quantity

Sample _____

Volume production _____

Sample measured data

No.	Spec.	Type	OD	ID	Turns	Thickness	Width	Gap	Remarks

[illegible]



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LISPRING OF CHINA

Web: www.lispring.com

Email: yl@lispring.com

Tel: +86-577-62606161

Fax: +86-577-62606162

Add: No.14 High-tech Industrial Park,Lingang Economic Development Zone,
Yueqing Bay,Yueqing City,Zhejiang,China

LISPRING OF AMERICA

Web: www.lispring.com

Email: marketing@lispring.com

Tel: +1-312-709-5128

Add: 405 W Superior St. 7th Floor,Chicago,IL 60654 USA